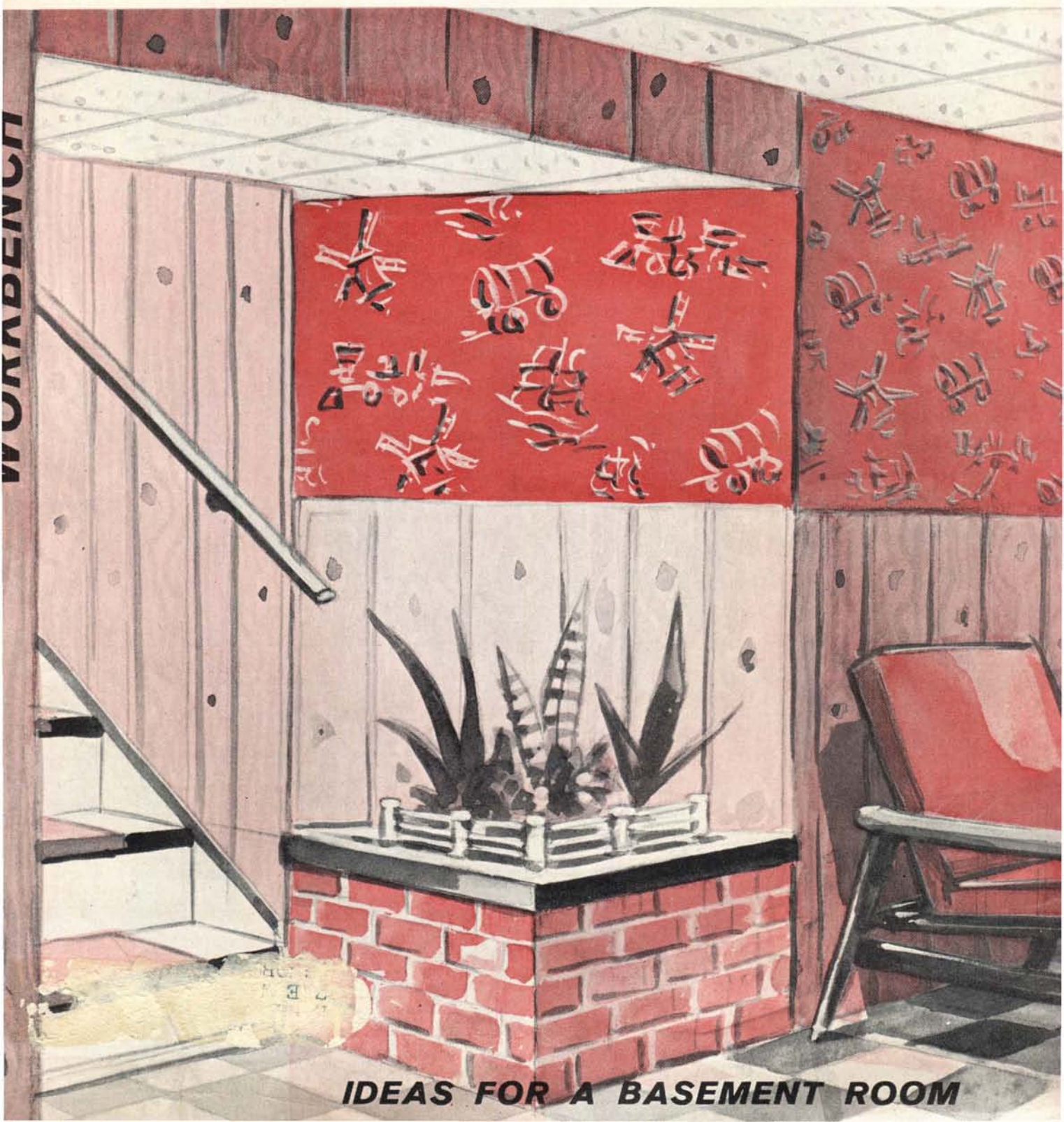


Workbench

SEPTEMBER
OCTOBER
1959

35c
CDC

The Right Pliers
for
Every Job



IDEAS FOR A BASEMENT ROOM

WE'LL PUT YOU IN YOUR OWN BIG MONEY MAIL ORDER BUSINESS IN YOUR OWN HOME!

We'll Show You How You May Make Up to \$50,000 per Year Without Investing A Cent for Merchandise and Without Shipping A Single Order Yourself!

Now, for the first time, here is a new, unusual, PRACTICAL way of getting in the mail order business without your having to invest one cent in merchandise, and without filling a single order yourself! This plan is offered to you by a firm in the mail order business for over 25 years and whose advertisements you see in most of the leading magazines in the U.S., such as McCALL'S MAGAZINE, AMERICAN LEGION, ELKS, MOOSE, NEW YORK TIMES, REDBOOK, FARM JOURNAL, NEW YORK NEWS, CORONET, HOLIDAY, TRUE, ARGOSY, EXTENSION, etc.

We pass on to YOU, without cost, the secrets of our own success . . . the "know-how" which has enabled us to gross millions of dollars in business . . . the same catalog and other literature we use so successfully ourselves! We give you everything we have. Because, frankly, NO ONE in this country is big enough to do all the business possible. By allowing you to participate in our own successful operation, we'll make more money than ever before—and SO WILL YOU!

HOW OUR PLAN WORKS

We charge you NOTHING at any time to become associated with us . . . We charge you NOTHING at any time for service, or information . . . We charge you NOTHING at any time for Franchises—we have no Franchises! . . . We SELL merchandise and by supplying you with the most unusual sensational, realistic, down-to-earth "2-color" 48-page catalog the world has ever seen. (The prices of our catalog are fantastically low. See sample prices at right.) You, too, SELL merchandise! But you sell it in the easiest way possible—by mailing out Catalogs on which WE print your name and address. When the orders pour into your home, as they will, just forward to us and WE fill them with your NAME AND ADDRESS printed on EACH label. You keep a liberal commission on EACH order.

CAN YOU SHARE THE PROFITS of OUR PLAN?

Yes! EVERYONE can get in the big money. There are no restrictions. Whether you are an individual who wants to make a few extra hundred dollars yearly; or if you already are in business, but want to supplement your profits by having your own catalog; or whether you are an organization which wants to make huge mail order profits others are making; whether you operate a Party Plan and need gifts and merchandise at low cost; or if you go to School and have to earn money to pay for your schooling; or if for ANY reason, you need or want to make extra money, we offer you what we sincerely feel is the best, easiest and most practical plan of making money you have ever dreamed of. You or anyone in your family can operate this plan at home, in your spare time, using only a few minutes a day.

FOR YOUR INFORMATION:

We have been in business in Topeka, Kansas over twenty-six years. Our Company is owned by Forrest E. Lindsey. We have sold millions of dollars of merchandise via mail order, ourselves, exclusively, but now we are letting others share our prosperity. If you send only \$1.00, we will mail you 8 catalogs with your name imprinted on the front cover of each. Or, write a postcard, asking for a catalog, and we'll send you ONE, with no name imprinted on it at all. When you mail it, the orders and money will come to you. You retain your commissions and send us the balance. We fill all orders promptly, sending the packages with YOUR name and address on each. Thus, YOU build up a beautiful repeat business. We feature merchandise which people need, want and actually use, instead of luxuries, novelties, etc. Our catalog is plain as an old shoe, but it produces tremendous amounts of business, because it is so sincere, honest and down-to-earth. You can mail catalogs to anyone you wish. In addition, if you wish, we'll tell you where to get names of thousands and thousands of potential customers. We stock all the items shown in our catalog in our five-floor building in Topeka. Other firms who use our catalog have sold and are continuing to use our catalog successfully. In fact, our plan has been so tremendously successful, that dealers have purchased about 2,000,000 of our catalogs since August 1958. Need we say more! We don't try to make a profit in selling our catalogs. We do not resort to fictitious hyped-up so-called retail prices. The retail prices we list are actual and genuine. We are the only firm who sells variety store type merchandise by mail. No other firm sells rubber bands, shoestrings, hairnets and other "bread and butter" items. These are our "SECRET WEAPONS." Ask your Post Office about us. Ask the Chamber of Commerce. In addition, ask our bank—National Bank of Topeka—about us. Or ask publishers of REDBOOK, HOLIDAY, WORKBASKET, SPECIALTY SALESMAN, OPPORTUNITY, ELKS, MOOSE, EXTENSION; also radio stations WWVA, Wheeling, West Virginia, WCKY, Cincinnati, Ohio, or WIBW, Topeka, Kansas about us. We suggest that for YOUR OWN advantage, you start NOW! Time is important—so don't delay. You can order as many or as few catalogs as you wish. We'll send as few as EIGHT imprinted catalogs with your name or the name of your firm, plus your address on the front cover—for only \$1.00, or ONE unimprinted catalog absolutely FREE! But let's get going! Time wasted is money wasted. Order your catalogs NOW!

WESTERN STATIONERY CO.

Department BW-18

Topeka, Kansas

HERE'S THE CATALOG THAT DOES IT!

BRAND NAME BARGAINS

MAIL YOUR ORDER DIRECT TO

YOUR NAME AND ADDRESS WILL BE PRINTED HERE

To

Totally and Completely Different from ANY Other Mail Order Catalog—Proven Terrifically Successful Year After Year!

Order Catalogs Now! Be In Business In a Few Days!

We offer you INSTANT ACTION! The minute you receive your catalogs you're in business! Just show your catalogs with your name and address printed on the front cover of each to your neighbors and they'll buy—and buy fast. But for biggest volume of business, mail out your catalogs to the best mail order customers in the country—we tell you who they are and where to get them. But don't delay because if you do, YOU will be the one who loses the most. So, order now! For best results order catalogs with your name and address printed on the front of each cover, or order unimprinted copy free. Don't delay! Get in the big money NOW!

WESTERN STATIONERY CO. Dept. BW-18, TOPEKA, KANSAS

Send me Catalogs with my name and address printed on the front cover of each, at prices listed below. I enclose \$_____

8 Catalogs.....	\$ 1.00	1,000 Catalogs.....	\$67.50
20 Catalogs.....	2.00	2,500 Catalogs.....	59.50 per Thousand
50 Catalogs.....	4.75	5,000 Catalogs.....	52.50 per Thousand
100 Catalogs.....	8.80	10,000 Catalogs.....	46.50 per Thousand
250 Catalogs.....	20.50	25,000 Catalogs.....	44.50 per Thousand
500 Catalogs.....	37.50		

All catalogs shipped f.o.b. Topeka, Kansas. We ship fastest and cheapest way.

Send me one free copy of your catalog without my name and address printed on the front cover: ☐

Name _____

Address _____

City _____

Zone _____

State _____

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Room 226, Union Bldg., 1836 Euclid
TOwer 1-3424

Jack Tillotson, Publisher

Jay W. Hedden, Editor

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CASH FILING SAWS



Make from \$3 to \$6 an hour spare
time or start a full time business
with the

FOLEY SAW FILER

Here is a steady repeat CASH business you can start at home in your basement or garage, while you are working at your regular job. No experience is necessary to turn out perfect cutting saws—"the first saw I sharpened came out 100%." I think the Foley Saw Filer is a marvel of perfection," writes Clarence E. Parsons. No canvassing—every saw you sharpen will bring you new customers. You will find you can make from \$3 to \$6 an hour—\$20 to \$30 a week in your spare time as a starter. "My spare time saw filing business has made me \$952 these first ten months," says R. T. Chapman.

With the new 1959 model 200 Foley Saw Filer you can file all hand saws, also band and both "combination" (rip and crosscut) and cross cut circular saws. It is easy to operate—simple adjustments—no eyestrain. Patented jointing principle evens up all irregular teeth and makes an old saw cut just like new.

This Free Book "MONEY MAKING FACTS" Shows How to Start

"MONEY MAKING FACTS" shows you how others have added hundreds or thousands of dollars to their income and how you can develop into a general repair shop that will be your own business. This is a CASH business with a small investment, no overhead, no stock of goods to carry. Mail Payments if desired. Mail coupon now for free book and nationwide survey of saw sharpening charges. No salesman will call.

FOLEY MFG. CO.,
1040-9 Foley Bldg.,
Minneapolis 18, Minn.

Send me free book "MONEY
MAKING FACTS" and Saw
Sharpening Price Guide.

Name

Address

City State

LETTERS TO THE EDITOR

Dear Reader:

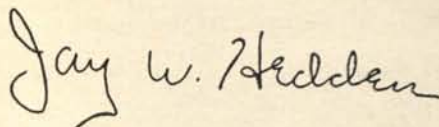
As the new editor of WORKBENCH I have just one job, that is to make it a better magazine for you. Editorial changes will be made, subject to your approval. Your letters will tell us whether or not we are making the changes you wish. Please, send us those letters.

Among the changes will be the use of two or three cartoons each issue. There is fun in doing things yourself, and these cartoons will help us appreciate the humor of some of our mistakes. Another feature will be the Workbench Research Dept. In this column we will answer questions on everything from leaking roofs and basement walls to what is the best paint for a concrete driveway and which power tool is best for a particular job. We will count on you, the reader, to send us the questions. If we do not have the answer ourselves, we will get experts in the field to aid us.

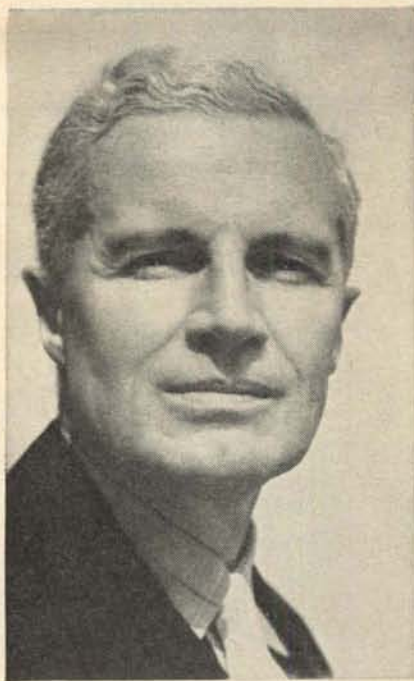
We are particularly enthused, and hope you will be too, about our WORKBENCH Model Shop. In this shop will be power tools, both portable and stationary, as well as hand tools. Projects sent to us may be built, or particular parts of a project may be built, to check the accuracy and practicability of any item. The Shop also will be used for taking photographs of operations required for projects submitted to us. This latter phase may be of interest to you readers who have an idea, but hesitate to send it to us because of your lack of photographic skill. Now you can send us a rough sketch and a full description of an operation and we can make the photographs. If you feel you are not an artist, make snapshots of your project. Although the snapshots cannot be used for reproduction, they will guide us in making our own photographs.

Beginning with the next issue, this page will be devoted to letters to the Editor from readers. Looking forward to hearing from you,

Sincerely,

A handwritten signature in dark ink, reading "Jay W. Hedden". The signature is written in a cursive, flowing style with a large initial "J".

Jay W. Hedden, Editor



I'd like to give this to my fellow men... while I am still able to help!

I was young once, as you may be—today I am older. Not too old to enjoy the fruits of my work, but older in the sense of being wiser. And once I was poor, desperately poor. Today almost any man can stretch his income to make ends meet. Today, there are few who hunger for bread and shelter. But in my youth I knew the pinch of poverty; the emptiness of hunger; the cold stare of the creditor who would not take excuses for money. Today, all that is past. And behind my city house, my

summer home, my Cadillacs, my Winter-long vacations and my sense of independence—behind all the wealth of cash and deep inner satisfaction that I enjoy—there is one simple secret. It is this secret that I would like to impart to you. If you are satisfied with a humdrum life of service to another master, turn this page now—read no more. If you are interested in a fuller life, free from bosses, free from worries, free from fears, read further. This message may be meant for you.

By Victor B. Mason

I am printing my message in a magazine. It may come to the attention of thousands of eyes. But of all those thousands, only a few will have the vision to understand. Many may read; but of a thousand only you may have the intuition, the sensitivity, to understand that what I am writing may be intended for you—may be the tide that shapes your destiny, which, taken at the crest, carries you to levels of independence beyond the dreams of avarice.

Don't misunderstand me. There is no mysticism in this. I am not speaking of occult things; of innumerable laws of nature that will sweep you to success without effort on your part. That sort of talk is *rubbish!* And anyone who tries to tell you that you can *think* your way to riches without effort is a false friend. I am too much of a realist for that. And I hope you are.

I hope you are the kind of man—if you have read this far—who knows that anything worthwhile has to be *earned!* I hope you have learned that there is no reward without effort. If you have learned this, then you may be ready to take the next step in the development of your karma—you may be ready to learn and use the secret I have to impart.

I Have All The Money I Need

In my own life I have gone beyond the need of money. I have it. I have gone beyond the need of gain. I have two businesses that pay me an income well above any amount I have need for. And, in addition, I have the satisfaction—the deep satisfaction—of knowing that I have put more than three hundred other men in businesses of their own. Since I have no need for money, the greatest satisfaction I get from life, is sharing my secret of personal independence with others—seeing them achieve the same heights of happiness that have come into my own life.

Please don't misunderstand this statement. I am not a philanthropist. I believe that charity is something that no proud man will accept. I have never seen a man who was worth his salt who would accept

something for nothing. I have never met a highly successful man whom the world respected who did not sacrifice something to gain his position. And, unless you are willing to make at least half the effort, I'm not interested in giving you a "leg up" to the achievement of your goal. Frankly, I'm going to charge you something for the secret I give you. Not a lot—but enough to make me believe that you are a little above the fellows who merely "wish" for success and are not willing to sacrifice something to get it.

A Fascinating and Peculiar Business

I have a business that is peculiar—one of my businesses. The unusual thing about it is that it is needed in every little community throughout this country. But it is a business that will never be invaded by the "big fellows". It has to be handled on a local basis. No giant octopus can ever gobble up the whole thing. No big combine is ever going to destroy it. It is essentially a "one man" business that can be operated without outside help. It is a business that is good summer and winter. It is a business that is growing each year. And, it is a business that can be started on an investment so small that it is within the reach of anyone who has a television set. But it has nothing to do with television.

This business has another peculiarity. It can be started at home in spare time. No risk to present job. No risk to present income. And no need to let anyone else know you are "on your own". It can be run as a spare time business for extra money. Or, as it grows to the point where it is paying more than your present salary, it can be expanded into a full time business—overnight. It can give you a sense of personal independence that will free you forever from the fear of lay-off, loss of job, depressions, or economic reverses.

Are You Mechanically Inclined?

While the operation of this business is partly automatic, it won't run itself. If you are to use it as a stepping stone to independence, you must be able to work with your hands, use such tools as hammer and screw driver, and enjoy getting into a pair of blue jeans and rolling up your sleeves. But two hours a day of manual work will keep your "factory" running 24 hours turn-

ing out a product that has a steady and ready sale in every community. A half dollar spent for raw materials can bring you six dollars in cash—six times a day.

In this message I'm not going to try to tell you the entire story. There is not enough space on this page. And, I am not going to ask you to spend a penny now to learn the secret. I'll send you all the information, free. If you are interested in becoming independent, in becoming your own boss, in knowing the sweet fruits of success as I know them, send me your name. That's all. Just your name. I won't ask you for a penny. I'll send you all the information about one of the most fascinating businesses you can imagine. With these facts, you will make your own investigation. You will check up on conditions in your neighborhood. You will weigh and analyze the whole proposition. Then, and then only, if you decide to take the next step, I'll allow you to invest \$15.00. And even then, if you decide that your fifteen dollars has been badly invested I'll return it to you. Don't hesitate to send your name. I have no salesmen. I will merely write you a long letter and send you complete facts about the business I have found to be so successful. After that, you make the decisions.

Does Happiness Hang on Your Decision?

Don't put this off. It may be a coincidence that you are reading these words right now. Or, it may be a matter that is more deeply connected with your destiny than either of us can say. There is only one thing certain: If you have read this far you are interested in the kind of independence I enjoy. And if that is true, then you must take the next step. No coupon on this advertisement. If you don't think enough of your future happiness and prosperity to write your name on a postcard and mail it to me, forget the whole thing. But if you think there is a destiny that shapes men's lives, send your name now. What I send you may convince you of the truth of this proverb. And what I send you will not cost a penny, now or at any other time.

VICTOR B. MASON

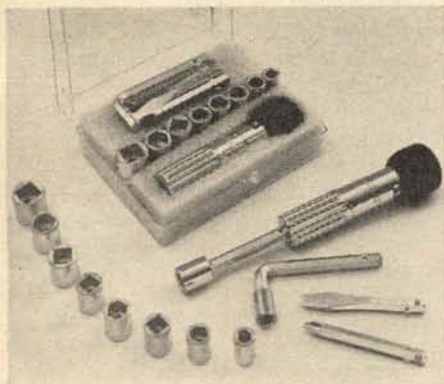
1512 Jarvis Ave., Suite M-6-K
CHICAGO 26, ILLINOIS



keeping up with craft and home products

In communicating with companies whose products are described in this department, please mention **WORKBENCH**.

Hand-Size Tool Set



SMALL ENOUGH to be carried in one hand, this tool set has ratchet handle, eight sockets for square and hex-head nuts, blades for straight-slot and Phillips-head screws, straight and right-angle extensions. Socketool is just \$3.00 from Atlantic Electric and Hardware, 3726 10th St., N.E., Washington 17, D. C., Department 30.

Random-Plank Marlite Panels



PLASTIC-SURFACED hardboard with the appearance of random planking comes in panels 16 and 48 in. wide. Marlite panels are tongue-and-grooved to fit tightly together, have special adhesive and concealed metal clips to complete installation. Available in six woodgrained finishes, with and without grooves. Matching base molding nails in place. Marsh Wall Products, Inc., Dover, Ohio.

New Variable-Speed Wood Lathe



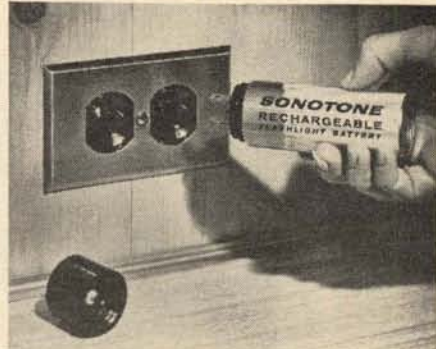
GAP-BED 12-in. wood lathe is new low-cost tool in Delta Power Tool line. Handwheel and easy-to-read scale permit adjusting speeds from 660 to 3,550 rpm while machine is running. Stock up to 12 in. diameter can be turned over bed, up to 15½ in. diameter over gap. Larger faceplate work can be handled on outboard spindle. Delta Power Tool Division, Rockwell Manufacturing Co., 400 N. Lexington Ave., Pittsburgh 8, Pa.

Self-Adhering Masking Paper



DO-IT-YOURSELF painters can now keep stray paint off floor coverings, walls, glass areas, woodwork, furniture and other surfaces, with MASKIT, a new painter's aid that combines masking tape and masking paper in a single sheet. Available in paint, hardware, auto supply and department stores.

Rechargeable Flashlight Dry Cell



CLAIMED TO outlast hundreds of regular flashlight dry cells is new unit manufactured by Sonotone Corp. Designed to be used in any flashlight that requires two "D"-size dry cells, unit has removable head that exposes prongs that can be inserted in any 110-volt AC outlet for an overnight recharging. Sonotone Corp., Elmsford, N. Y.

Easel Brackets for Stepladders



IF YOU own a stepladder you'll be interested in Ladder Eez'el brackets. Made in pairs of heavy gauge steel, they loop around the ladder stringers (legs) and hang from the ladder steps. They can be adjusted instantly to any step height, but will not brush or bump off when in position. The brackets project about 2-in. from the stringer and are bent upward at the tip to form a work-holding lip.

Ladder Eez'el brackets hold your project easel-fashion at any con-

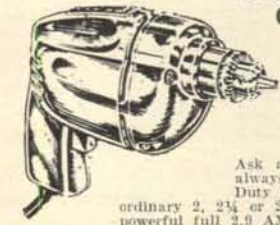
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One of our BEST Values! 2.9 AMP. HEAVY DUTY 1/4" RAM DRILL

with Jacobs Geared
Chuck & Key

Reg. \$39.95—
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\$14.95
plus
50c p.p. & hdlg.



Ask any expert and he'll always say "RAM for Heavy Duty Work." Not just an ordinary 2, 2 1/4 or 3 1/2 amp. unit, but a powerful full 2.9 AMP. drill to do every heavy duty job in home, shop or industry. Built to take years of rough-tough use. Newer, more rugged motor gives 1/2" capacity in hard wood and 3/4" capacity in steel with a full load speed of 1200 R.P.M. Durable mirror finished, lightweight aluminum housing. Features Universal, series wound AC-DC motor; heavy duty multiple thrust ball bearings; automatic release trigger switch with locking pin; 6 ft. 2 conductor, UL approved cord and plug. Standard 115 V. AC-DC. This powerhouse measures 9" in length yet it weighs only 3 1/2 lbs. If you've ever needed a drill or find that your present 1/4" job just won't do the things you expect of it. ORDER THIS 2.9 AMP. 1/4" RAM DRILL TODAY! Limited quantities.



"Hoppy" Split-Image Transit

An Amazing, Versatile Revolutionary
LEVEL & INCLINE MEASURE!

This simple, yet amazingly accurate instrument indicates level and measures incline down to a fraction of an inch. Makes bubble type or string levels obsolete. It not only indicates level, but shows exactly how much correction is needed. Just one person using the split-image transit and target supplied with it can perform any leveling, incline-measuring job quickly, easily, accurately—measures inclines down to the thickness of a dime at 25 ft. So accurate, it can be used instead of expensive surveying equipment for most grading and construction work. Ppd. \$6.95

IDEAL FOR: Leveling and Grading, Model Train Tables, Contour, Plowing, Carpentry, Brick Laying, Cement Work, Surveying, Gutting, Foundation Work, Patio Building, Yard Grading, Fencing, Plumbing, Terracing, Duct Installation, Shelving, Irrigation, Do-It-Yourself Jobs, Table Leveling, Flooring, Masonry Work, Drainage Work, CARRYING CASE—Fitted Heavy Plastic Leather-Like Carrying Case with Brass Lock. \$3.95 p.p.d.

**NOW! Shut Out Cold, Wind, Water, Snow—
Keep Garage Warm & Dry ALL WINTER with**

FLEXIBLE RUBBER GARAGE DOOR BOTTOM



Don't waste precious heating dollars! Keep winter cold, snow, rain, dust and drafts out—keep heat in with this amazing heavy-duty, live rubber weatherstripping. Ingenious front and back lip contour design makes it an automatically perfect closure regardless of shape of floor. Guaranteed never to harden, rot or deteriorate in any fashion. Eliminates forever ear-shattering noises no matter how hard you slam down your overhead garage door. Ideal also for sides of double hung garage doors, barn doors, etc. Can be permanently applied in only 10 minutes—requiring just a hammer to supply the nails. Complete, simple instructions in piffonin pack.

9 foot strip \$2.89 p.p.d.
16 foot strip 4.98 p.p.d.

Automatic Siphon Pump

sensational low price **\$1.98** p.p.d.

Now—siphon any liquid automatically, safely, WITHOUT putting tube to mouth! Squeeze bulb, liquid starts to flow immediately! Transparent sections let you see liquid flow-line! Siphons, pumps gasoline, water, any liquid. Even acids, corrosives! For cars, boats, power mowers, campers, plumbers, doctors, chemists, factories! Acid resistant. Over 7 ft. long!

ALSO AVAILABLE—Heavy Duty Siphon, 1/2" diameter tubing, 8 ft. long. \$2.98 p.p.d.



Steel Jaw HAND VISE

This handy holder for pro as well as amateur, has STEEL JAWS 1 1/4" wide which open up to a full 1". An ingenious V-slot in one side is ideal for holding round objects. Over-all length is 6 1/4" with 4" varnished wood handle.

75c
plus 15c pp. & hdlg.

(3 for \$2.00 p.p.d.)



WATERPROOF,
RESISTANT TO
DUST, AIR,
GREASE,
UNAFECTED BY
HEAT, COLD.

Protects from dust, dirt, moisture, rust, moths, heat, cold, etc. Transparent. Stains wipe off! Lightweight, strong, inexpensive!

For HOME—Cover auto seats, furniture, mattresses, lamps, rugs, appliances, luggage, silver to prevent tarnish, air conditioners. Use as shower curtains, storm windows. Keep paint off furniture, floors, etc. Wrap food, moth-proof wrap clothes.

For OUTDOORS—Cover boats, sports and fishing equipment, tennis courts, cars. Make children's play tents. For GARDENS—Protect outdoor furniture and equipment, shrubs, plants, newly seeded lawns. Build greenhouses. Cover lawn mowers.

For INDUSTRY—Cover equipment and machinery. Fumigation, oxygen tents. Painter's drop cloth. Floor covers for car trunks, trucks. Chases moisture vapor from crawl spaces, etc. Curing concrete. Keep rain away from outdoor work areas.

36" x 100 FT.	.004 GAUGE	\$ 6.95
96" x 100 FT.	.004 GAUGE	15.95
120" x 100 FT.	.004 GAUGE	22.95
EXTRA SPECIAL!		
50" x 200 FT.	.002 GAUGE	\$ 9.95
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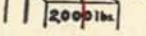
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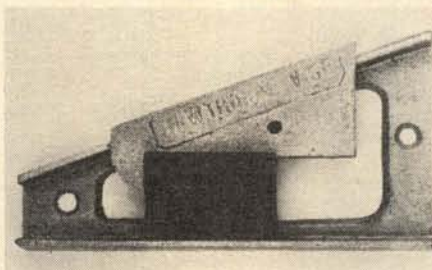


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Craft and Home Products

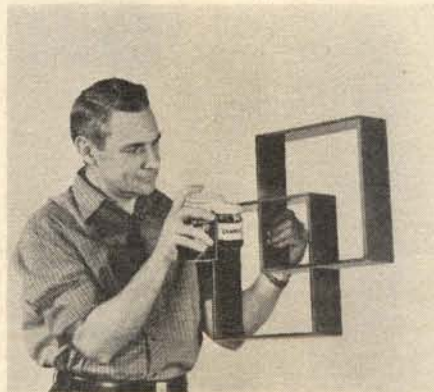
venient height for comfortable work. They take the back-break out of the annual chore of washing, painting and glazing storm sash, screens, shutters. They form an inexpensive easel for art students. For the hobbyist they do double-duty as a saw-horse, to support a bucket-shelf, hang Venetian blinds for restringing and cleaning, etc. They may be procured from your local hardware or paint store, or directly from the manufacturer, R. A. Ness & Co., 5083 Elston Avenue, Dept. WB, Chicago 30, Illinois. Retail price: \$1.39 a pair.

Self-Adjusting Vise



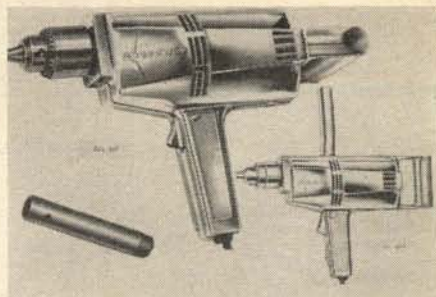
WITH THE Self-Adjusting Vise, planing, filing, sanding, drilling, etc., become a simple operation. Wedge principle—the more you plane, the tighter your work becomes. Won't mar work, holds it firmly, easily readjusted—just lift work out from rear. Takes from a single sheet of paper to 2 x 4 lumber. \$1.50 ppd. Dunn's, 826 Delview Dr., Folcroft, Pa., Dept. G.

Self-Powered Spray Gun



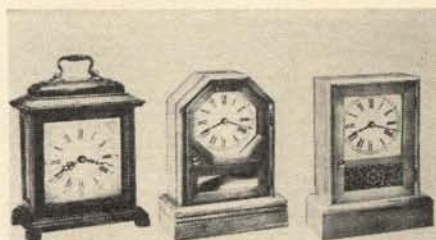
"JET-PAK" is self-powered spray gun easily held in one hand. Compressed gas provides power to spray any liquid that can be thinned to proper consistency, including paints, lubricants and garden sprays. Fresh gas containers and spare paint jars readily available. Priced at \$4.95 by Sprayon Products, Inc., 2075 East 65th St., Cleveland, Ohio.

New Portable Electric Drills



TWO-POSITION rear handle and removable top handle are features of two 1/2-in. portable electric drills developed by Thor Power Tool Co. No. 40 has forward speed only, No. 40-R has reversing switch in handle. Speedway Division, Thor Power Tool Co., 1421 Barnsdale Rd., LaGrange Park, Ill.

Electric-Clock Kits



TIME ON your hands? Then assemble a replica antique clock in one evening with a Rarewood Craft Kit. Kits contain preassembled electric-clock mechanism and precut wood parts. Left to right: 17th Century Bracket Clock, Early American Table Clock, Connecticut Shelf Clock. Craftsman Wood Service Co., 2727 S. Mary St., Chicago 8, Ill. \$10 to \$16.95.

Dustless Finishing Sander



FINISHING SANDER is designed for simple, quick attachment to any vacuum cleaner, so dust is removed from work instantly. Orbital sander runs at 4,300 orbits per minute, assuring satin-smooth finish on any surface. Black and Decker Mfg. Co., Towson 4, Md.

Two-Speed Belt Sander



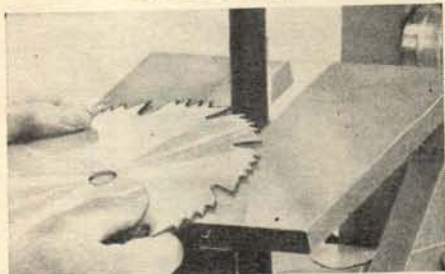
FOR SMOOTHING rough lumber this 2-speed sander is run at high speed, 1,100 feet per minute. Handy switch changes speed to 800 feet per minute for fine finishing. Skil Corp., 5033 Elston Ave., Chicago 30.

"Surform" Curved Tool



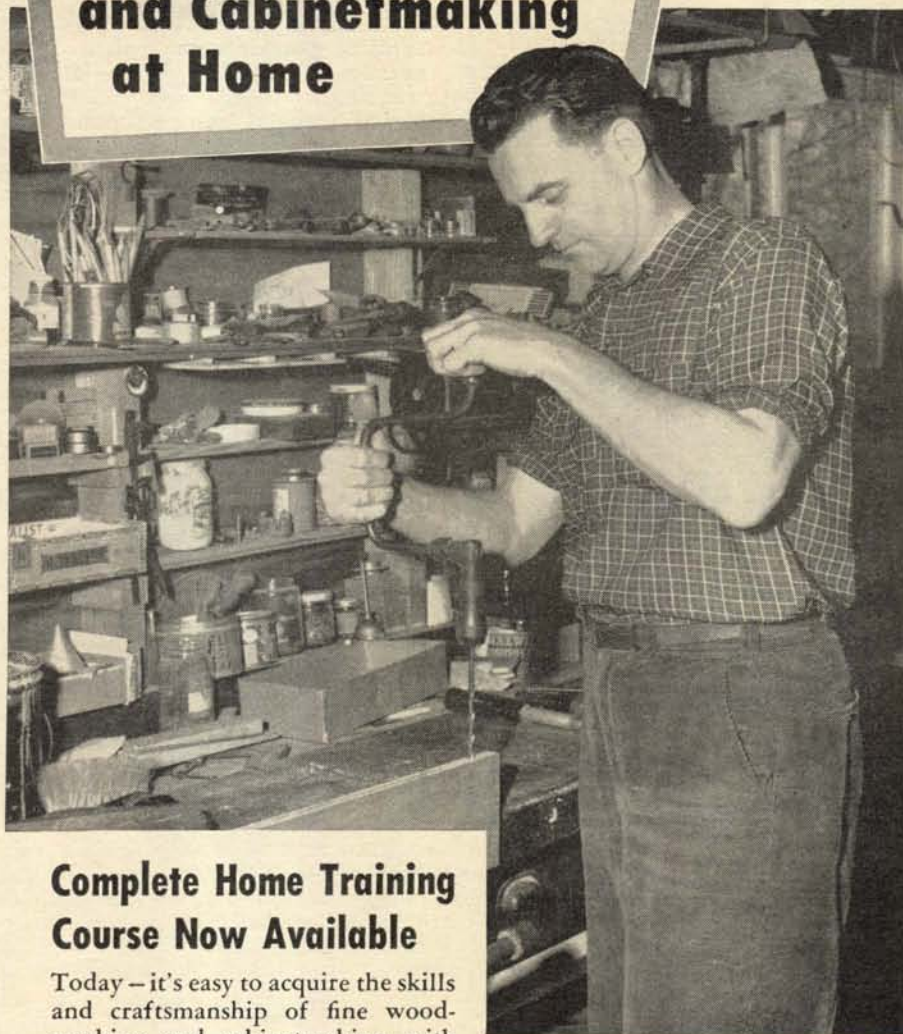
CONVEX-PLANE type tool is newest in Stanley line of Surform tools. Two knobs make it draw-cut or push-cut tool. Specially designed to shape, shave and smooth curved surfaces. Available wherever tools are sold.

Belt Grinder for Circular Saws



PRECISION TOOL for faster and easier finish-sharpening of circular-saw blades is new "Abrasive-Belt Grinder" that has adjustable tilt-table, automatic belt tension, adjustable idler arm and quick-change backstop. Machine makes "touch-up" and tooth-pointing faster, assures cost-saving as compared to usual file-and-vice technique. Belt Grinder

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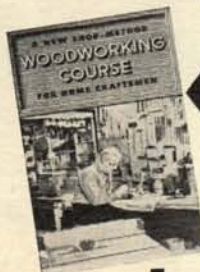
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Craft and Home Products

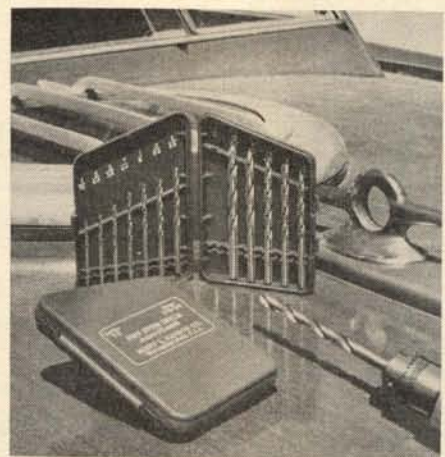
also sharpens rotary lawn-mower blades and variety of edge tools. Ideal burring machine and all-around sanding grinder for metal, wood and plastics. Complete with 1/4-HP electric motor, V-belt drive and four assorted abrasive belts on money-back guarantee for \$62.50. Belsaw Machinery Co., 4301 Field Building, Kansas City 2, Mo.

New Combination Power Tool



COMBINATION POWER tool is 8-in. table saw, 4 1/8-in. jointer-planer, jig saw, sabre saw and disk sander. Has 24-in. table extension, pedestal mount, 3/4 h.p. motor. Sears, Roebuck and Co.

Lightweight Drill-Bit Set



DRILL BITS in this lightweight plastic case snap in and out as needed. Case can be carried in pocket without damage to clothing, hung flat on workshop wall or placed upright on bench. It contains thirteen high-speed bits, from 1/16 to 1/4 in. Bits and case weigh only 8 oz. Henry L. Hanson Co., Worcester, Mass.

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Clutter-Free Pot and Pan Storage

POTS AND pans are notorious space-wasters.

But this kitchen closet shown in the photograph gives you two clues as to how you can make more efficient use of storage space you already have—and how you can create new storage areas. The large middle section on the lefthand side of the closet is lined with panels of perforated hardboard from which pans are hung on removable metal hooks. These fixtures, available at hardware stores, are inserted into the perforations and can be rearranged quickly. You may find use for perforated panels in your pantry, closets or kitchen wall surfaces.

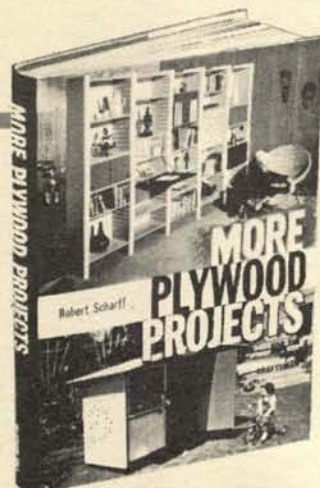
The lower lefthand section of the closet shown here illustrates another way in which splinter-free hardboard panels — nonperforated in this instance—help transform clutter into orderly storage. The hardboard dividers keep large, flat pans, griddles and the like within easy reach. The dividers shown here can be slid in and out of grooves cut in the shelves above and below. They also could be held in place with quarter-round wood molding attached to the shelf top and bottom.

Hardboard can be worked like ordinary wood, and its smooth, grainless surface takes paint, varnish and other finishes.—The Hardboard Assoc.



Can your house use
an extra closet?
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Here's how you can make them—
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FIG. 1. Clever designing makes this entrance to a basement room strikingly attractive. Hidden light in the planing box indirectly illuminates stairway and accents wood paneling. The paneling can be stained almost any color of rainbow, assuring unlimited variety.

Would you like to build a room in your basement, but feel that the location of the furnace, gas and water meters, supporting columns and the like prevent you from doing a really good job? Then check over some of the ideas presented in this story. See how obstructions can be made focal points of interest by clever design. Hide the meters with cabinets, but make the cabinets do double duty by providing storage space for items that you do want to use and display.

What about the materials to use for the floor, walls and ceiling? You can use almost any material in the basement that you can in a structure above ground. Are there advantages in a basement room over a structure above ground? Yes, it's a matter of cost per square foot. How about ventilation, heating, lighting? Thought-provoking answers are provided for all these questions.

Ideas for Beautiful Basements

SYLVIA SANDERS

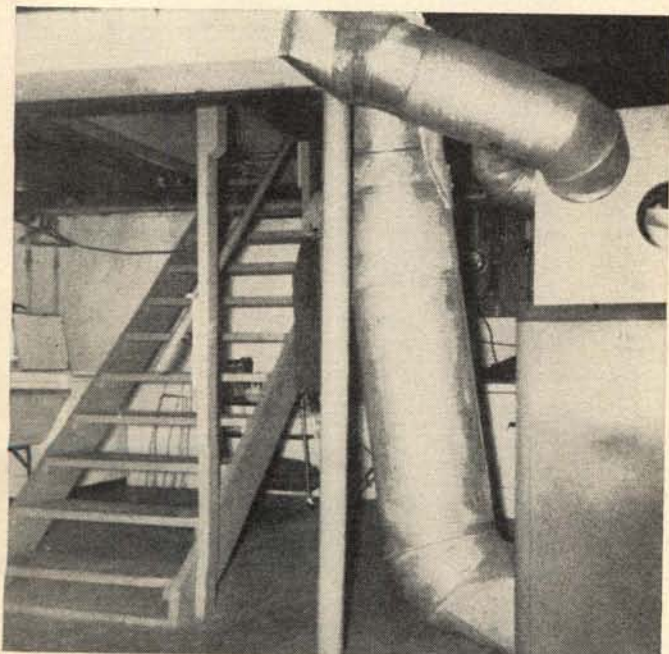


FIG. 2. This awkward and ugly complex of ductwork, steel column and open stairway would seem to defy any attempt to make it beautiful. Imagination and ordinary building materials changed it to a beauty spot as in Fig. 1.

BASEMENTS ARE coming back in style. For many years the majority of homes have been built without them. The reasons were sound; utility rooms on the first floor had ample space for a laundry with an automatic clothes washer and a drier. Furnaces are smaller and hot-water tanks now are more compact and efficient. These two items fitted in a corner of the same utility room with few or no problems. Houses built without basements are less expensive; the costs of excavation and pouring concrete walls is eliminated. Besides these other factors, basements have in the past been mostly catch-alls. Dad might have a workshop in one corner, but the rest of this space was just some place to store items that had no immediate use.

New factors have entered the picture. Houses without basements may be less expensive than those with basements, but the usable space in a basement actually costs much less than a structure of equal size above ground. The logical answer is to make this below-ground space into an attractive, livable room or rooms. Living and dining rooms on the first floor often are small, to permit having an extra bedroom in the house, but the basement family room—activity room, recreation room, game room; there are many names for it—can be one-half or three-quarters the size of the whole house. Plenty of room for dancing, for a table-tennis outfit, even a full-size pool table. A refreshment bar in one end, or perhaps in a corner. A snack counter that folds down out of the way when not in use to permit full

utility of the floor space for dancing or games is another item that can be made quite simply with brackets available from most hardware stores.

Because the exterior walls of a basement room are already finished, there is no problem of working out in the weather, as there is when a room is added to the ground floor. The home craftsman can work as much or as little as he pleases. The basement room can be finished in a month or two, or the job can be extended over a couple of years. At all times the room is usable, being warmed by the furnace in the winter, and usually naturally cool in the hot summer.

With some basements there are problems; the furnace is in the center of the floor area, water and gas meters are in awkward locations, large sewer lines run from the ceiling to the floor so there seems no way to conceal them. Windows in basements usually are high and quite small, making them difficult to decorate.

Described in this article are a few solutions to such problems. Ideas are shown that can be utilized to make those basement eyesores into beauty spots. "If you can't beat 'em, join 'em," might be the motto for anyone making a basement room. Start with the basement stairway; the first thing that anyone will see when entering your below-ground room will be the stairway and it should make a good first impression. Our cover picture, and Fig. 1 in this story show what can be done with an extremely ugly stairway. A hot-air furnace with large-diameter air ducts squats just beside the stairway, Fig. 2, flailing its pipe-arms about. Set among the arms is a steel column that supports the beam under the floor joists.

When Mr. Dave Petersen of St. Louis Park, Minn. was faced with this situation he not only successfully disguised the furnace and its ductwork, but utilized it to make an extremely attractive entrance. The open stairway was closed in with 2 x 4 studding and wood paneling was nailed to the studding. The open risers of the stairway were closed in and the treads painted and



Photograph courtesy of J. W. Mortell Co.

FIG. 3. To avoid moisture damage to wooden paneling or other material used for walls and ceiling of basement room, all water piping should be wrapped with insulating material to eliminate the problem of "sweating."

fitted with rubber mats for an added safety factor. A studding framework was built on a line extending from the foot of the stairway to the steel column and wood paneling was applied to this. The brick planting box sets directly on the concrete floor. The back wall of the planting box also is brick, its front edge being flush with the face of the paneling. This planting box

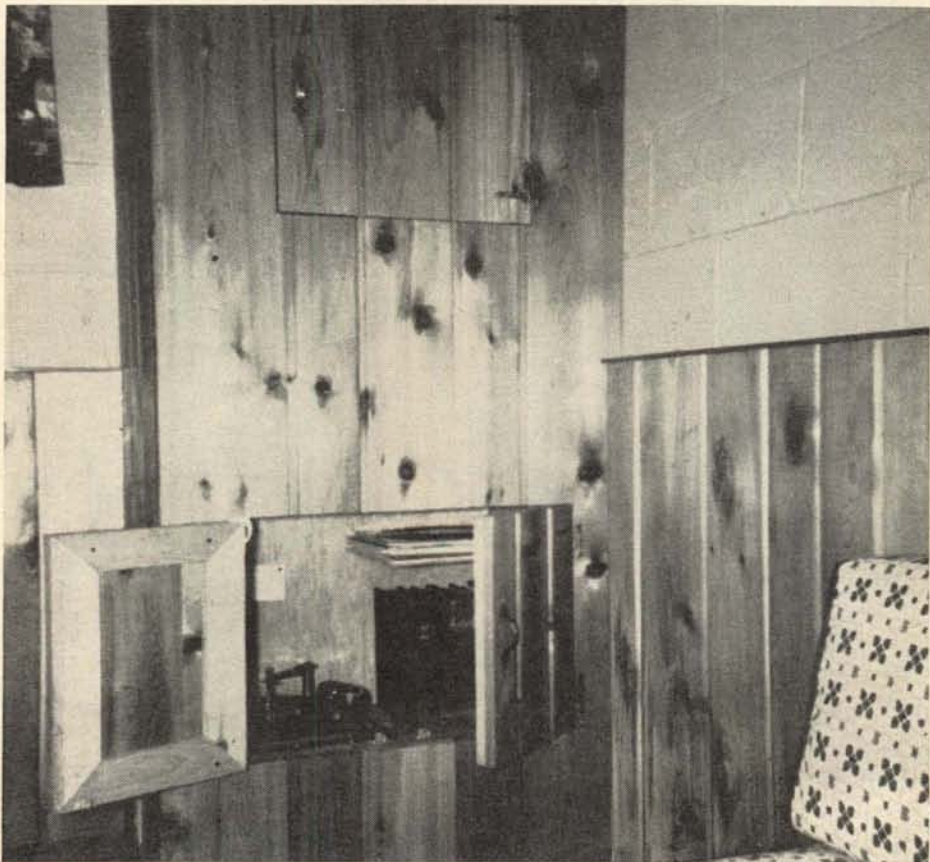


FIG. 4. Record player and supply of records is stored in lower cabinet of this built-in constructed around gas meter. Upper door provides access to meter so it can be read, also permits reaching shut-off valve. Simple 2 x 4 framework supports wood paneling from ceiling to floor.



FIG. 5. Framework of 2 x 4s encloses gas meter. Several cabinets or open shelves could be installed before wood or other paneling is attached.



Photograph courtesy of Camp Co.

FIG. 6. Whether basement walls are furred to allow nailing paneling or plasterboard, or just painted, they should be sealed. Materials are available, in various colors, to permit decorating and sealing in one coat.

could be made of a number of types of material: Rock, slate, flagstone or even wood. In the latter case a metal liner would be required to protect the wood against the moist soil in the box. A light at the back of the planting box provides indirect illumination for the stairway, being reflected from the white acoustic tile that is cemented to the furnace duct overhead, Fig. 7. Here is another phase of decorating a basement room that is wide open to the builder's imagination and ingenuity. The lighting at the foot of the stairs can come from the planting box, from flush lights overhead, or lights on the wall. They can be white or colored—all the colors in the rainbow. Revolving mechanisms could be used to make a glass-block wall or window change colors



FIG. 7. Acoustic tiles are cemented to furnace ductwork, stapled to furring strips on floor joists, to make attractive ceiling that also absorbs sound so first floor is not disturbed by party in basement room.

constantly, "painting" the stairway with a rainbow of light. No details are shown of the wall studding, as it is a simple framing job. Holes would have to be drilled in the concrete floor at two or three points to permit the installation of screw anchors for a wall of this length. The steel column would provide ample support at one end of the wall, the stairway framing would support the other end.

Gas and water meters, Fig. 9, almost without exception are in locations that will give the builder of a basement room problems. Mr. Petersen's solution was to use them to advantage, as he had done with the stairway and furnace. Cabinets were built around the meters, both to conceal them and to provide space for

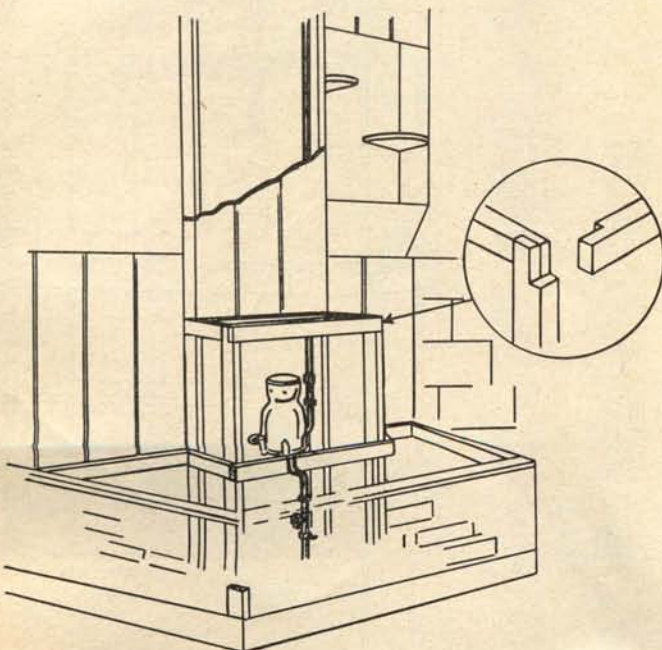


FIG. 8. Brick wall is built around framework that encloses water meter. Upholstered seat sets on top of wall and on projecting framework. Both seat and top of telephone stand are removable for access to the meter.

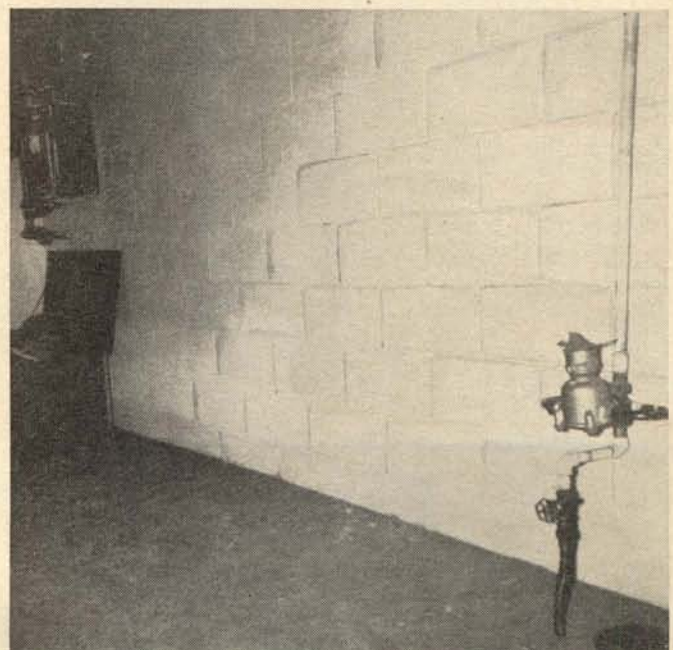


FIG. 9. This uninviting expanse of concrete-block wall in basement was changed to beauty spot by enclosing meters in cabinets and covering wall with stained wood paneling. Upper portion of wall is simply painted.



FIG. 10. An added touch on this seat-telephone-stand conversation center are the shelves to the right of the stand and the electric clock in the upper portion of cabinet. This could be kit-built clock set in recess.

other items. Because the cabinets and adjacent paneling are fitted directly against the basement wall its surface must be sealed, Fig. 6. A material that both seals and colors masonry is Aqua Shield, made by the Camp Co. of Chicago. Another product is X-Pandoseal, a silicone masonry sealer that permits painting the walls, with any type of paint. After the walls have been sealed with a product of this type, the cabinets around the meters can be built. The gas meter is located in a corner, and a framework of 2 x 4s is built around it to permit applying the wood paneling, Figs. 4 and 5. A door opposite the meter dials permits easy reading of the meter. A shelf below the meter is used for a record player and record storage. Keeping in mind that it might some day be necessary to replace or repair the meter, build the front of the cabinet as one large panel and fasten it with screws. When necessary, the panel could be removed in a fairly short time. Also make sure that the size and position of the door opposite the meter permit you to reach the shut-off valve. It would be somewhat disconcerting to have to tear down the whole cabinet to reach the valve.

Because a water meter usually is fairly low, a cabinet around it need not necessarily be quite as high as the one around the gas meter. In the Petersen basement the cabinet was extended to the ceiling to match the shape of the other cabinet, but it was "notched" to provide a telephone shelf, Figs. 8 and 10. Around the base of the cabinet was built a brick wall to match the planting box at the foot of the stairs. A simple 2 x 4 framework also was used here to support the wood paneling, as well as the back edge of a cushioned seat that extends between the brick wall and the cabinet. Both the seat and the top of the telephone stand lift off. This arrangement permits easy reading of the meter and access to the main water shut-off valve. Before building the cabinet around the water meter all piping should be wrapped or fitted with insulation to prevent the pipes from sweating, Fig. 3. The meter itself should also be wrapped for the same reason. Here again there is a wide choice of materials for the builder. Brick need not be used for the wall under the seat. It could be a masonry material other than brick, or it could be wood paneling supported on a 2 x 4 frame. A more expensive, but different, way of building the low wall would be with glass block. And again, lights could be used behind the wall in a number of ingenious ways. Glass-fiber



FIG. 11. Television set is recessed into inside wall. This could be wall of workshop or laundry room. Front of set here has been refinished to match paneling, new front of same wood as paneling also could be made.

paneling is another material that would go well, as it is rust and rot-resistant.

If your basement room is to be a family or game room, television is sure to be included. Where will this go? When you build an inside wall to close off the laundry or workshop area from the activity area make provision in the wall for installing the television set,

(Continued on next page)



FIG. 12. Wood paneling, plasterboard or other materials require that furring strips be attached to masonry wall of basement. Type of fastener shown here is cemented to wall, wooden strips driven onto projecting nails.

Fig. 11. Choose a spot that will assure good viewing, but keep in mind that the set will project through the wall and the workshop or laundry side should be considered also. Keep it clear of any working area of the shop where it is likely that you will shove a length of lumber through it, or where you will walk past close to the wall. In the laundry area keep the set away from water or any location where water is likely to be splashed. The back of the set can be closed in somewhat, but there is a tremendous amount of heat generated in the set and it must be allowed to escape. The television set in Fig. 11 has the front refinished to match the wall paneling. An even better way is to build a new front for the TV cabinet of the same material as used for the wall. It requires only that an opening be cut for the picture tube and a couple of holes for the control knobs. The safety glass and frame can be mounted in the new front. Be sure to use the safety glass on the set. In a basement recreation room a reckless game of catch could send a ball flying through the front of the expensive picture tube. It would be much easier and less costly to replace the safety glass.

Several of the photos in this article show that wallpaper has been used. This can be regular paper or a plastic or canvas material. Regular paper is the least expensive. Sheets of plasterboard or hardboard are used to cover the basement walls in areas where paper is used. It is applied by first installing horizontal furring strips, which also are required for the installation of the wood paneling. Where plasterboard is used, the seams are taped and plastered as with any wall of this material. In the case of hardboard, allow about $\frac{1}{8}$ in. between sheets and fill this joint with paste spackle. When these joints are smoothed with sandpaper the hardboard will present an unbroken surface for the application of wallboard.

For a floor covering asphalt tile seems one of the

most popular materials. It does well on below-grade locations and is fairly inexpensive. Color selection is somewhat limited as compared to other types of floor coverings, but pattern possibilities are numerous when several colors are used. Shuffle board courts of asphalt tile can be purchased as kits and installed when a floor is put down. If a floor is rough, or has irregularities in it that you wish to smooth and level before installing tile, latex cement, a compound of liquid rubber and cement powder can be troweled thinly over the concrete. Irregularities in a concrete or concrete-block wall also can be covered with this material, if the wall is to be painted rather than covered with paneling of some sort.

When it comes to paneling the walls only your imagination and budget are the limits. Available are simulated bricks, stone and bamboo in plastics and reinforced glass fiber. Plastic-surfaced hardboards in a variety of wood grains can be used. For the maximum in economy plasterboard can be installed over furring strips, Fig. 12, then painted or papered. Using plasterboard will give you a room that has much the appearance of a room above ground. To further this illusion, drapes should be hung from ceiling to floor on the high windows of a basement, and their width—using a traverse rod—should be several times wider than the actual width of the window.

Lighting should be planned before construction of the room begins, to assure that all wiring will be hidden, either above the ceiling or behind the wall paneling. Where piping or ductwork may require repair or replacement, fit the wall paneling or ceiling tiles on a backing that will permit a section of the wall or ceiling to be taken down quickly to permit making repairs. If you plan on having large groups of people in the basement room for parties, consider the ventilation problem and install an exhaust fan if that should be necessary.

Toy-Block Pulls for Nursery Furniture

FRANK BARTONEK

WHEN YOU are refinishing a chest of drawers or dresser to match the decor of the nursery for that expected new member of the family, add an individual touch by replacing the original drawer pulls with toy blocks. Fairly large wooden blocks should be used, of a size that will be a comfortable grip for mother's hand. Attach the blocks by driving a wood screw into each one from inside the drawer fronts as indicated. Drill pilot holes in the blocks to prevent them from splitting when the screws are driven.

The block-handle idea can be used also for doors of cabinets in the room, or wherever such pulls are needed. If the blocks are not of a color, or colors, that go well with the room decor, they can be repainted. If you or a friend have an artistic touch, paint the blocks to match or contrast with the piece of furniture, then paint the letters on the blocks a contrasting color so they stand out clearly.





Skylights Replace Windows

GLASS-FIBER SKYLIGHTS in the roof eliminate the need for dormers in this attic room. Built-in cabinets containing a hi-fi set and storage compartments, with adjustable shelves above, fill the space that ordinarily would be used for dormers. Soft, diffused light illuminates the room in the daytime. Whether it is a family activity room, as shown here, or an upstairs bedroom, the skylights make it a well-lighted, cheerful area. An opening can be cut in the roof and the panels installed over boxed beams

for a modern look, or the panels could be attached directly to the tops of the rafters. The rafters then could be boxed in, or other panels could be fastened to the undersides of the rafters to provide an insulating dead-air space, with little light loss.

Corrugated panels are used for the exterior, because of their added strength, flat panels can be used for the ceiling. Lights can be installed above the ceiling panels for an unusual affect. — Structoglas Division, International Molded Plastics, Inc.

Floor-to-Ceiling Doors

WHILE THESE tall doors do permit Dad to carry his youngsters on his shoulders without worrying about them striking the tops of door openings, they have several very practical aspects. First introduced in the research houses of the National Association of Home Builders, the over-size doors provide better ventilation and therefore lower costs for heating and air-conditioning. Their large size make a room look even more spacious and the cost of installation is much less than that of a standard-size door because of the elimination of headers in the wall framing.

Because there simply is no wall above the doorway, the problem of cracks in the plaster, due to the normal settling of a house, is eliminated. Tempered hardboard is used for "skins" of some of these hollow-core doors. —Masonite Corp.



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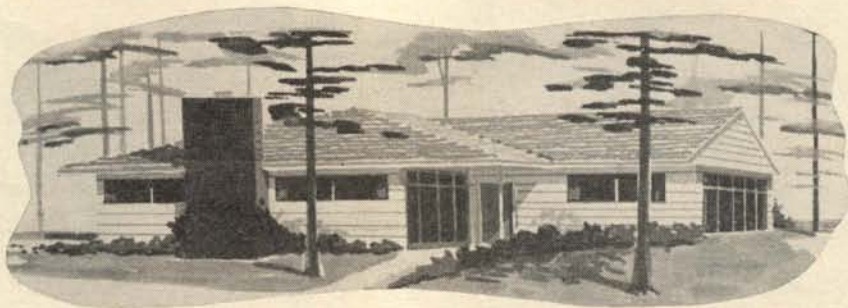
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TO DE-EMPHASIZE undesirable architectural features such as a prominent chimney, dormers and dissimilar windows, paint them in a color that matches the body of the house. In the house at the top the chimney stands out, but below, after it had been painted to match the siding, it fades into the background.

Paint Your House A Different Size

TED MORGAN

Paint can bring out your house's best architectural points or conceal its worst.

A LITTLE lipstick, judiciously applied, can often appear to change for the better the shape of a girl's mouth. Likewise, thoughtful use of paint can do more than change the color of your house. It can make a squat house seem taller, a small house appear larger, a too tall one seem lower and wider. But another point to be remembered is that if you misuse paint, you can emphasize all the architectural flaws that make you

the most unhappy about the design of your own dwelling.

Particularly if you are going to paint your own house it is important that you have some understanding about the effect your color selection will have on the appearance of the house as far as its size and shape are concerned. "Cues on hues" are what experts at the Pittsburgh Plate Glass Company call the following painting suggestions:

1. While the two major color areas rarely match, they should at least be related in color.

2. Make the roof the starting point in planning a color scheme. Remember: a light hued roof will make a house seem taller, while dark tones will make it appear lower. One of the most frequent architectural flaws in older houses is that they are too tall for their width. If you paint the roof, dormers



LIKE MANY older dwellings this house, left, appears too tall for its width. At the right is shown how this proportion was changed by using a darker color on the roof. Painting the upper shutters same color as the roof reduced apparent height still more.

and upper shutters the same dark color, you can reduce the apparent height of the house. Matching dormers to side walls will give the illusion of greater height.

3. By using light tints for siding you can give small homes an appearance of more spaciousness. Dark shades on the siding tend to make the house appear even smaller. If your house combines wood siding with masonry or brick, paint it all one light color to achieve a spacious effect. To give a ranch house the horizontal stretch it seeks to achieve, the siding should be blended with the masonry and the carport colored to match.

4. You have three possibilities as far as trim areas are concerned. They can match the siding, contrast with it, or be a lighter tint of the siding color. It depends on what effect you are seeking. To pare down a "gingerbread" effect, paint trim areas the same color as the body of the house. But if your house is built along spare, functional mod-

ern lines, an eye catching trim will be an asset. Point up details with a color that contrasts with the walls. If you want to use the same color for both, use a lighter or darker shade for the trim.

5. While doorways are a good spot for accent color, be sure to choose a color that harmonizes with trim, siding and roof.

6. A drab, gray foundation can mar the effect presented even by a newly painted house. You can get masonry finishes in colors that match house paints.

7. Don't overlook the fact that patio, porch, garden and other outdoor accessories contribute to the total effect produced by your house. Harmony with house colors will create an impression of unity.

Color Guide for Your House

If it appears:

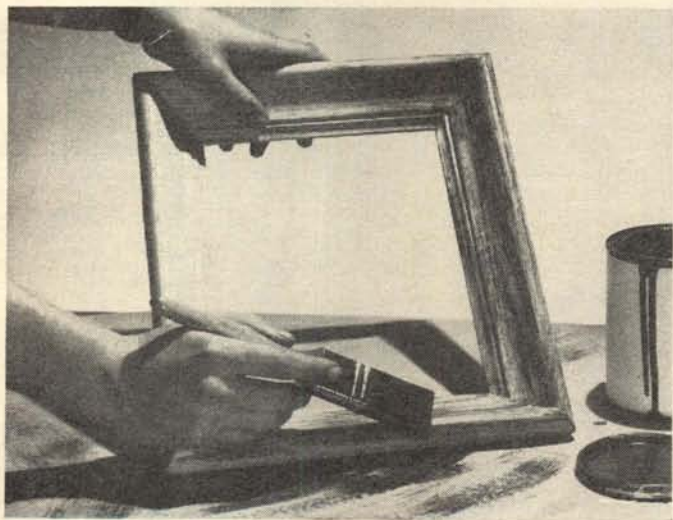
Too tall—Deep hues on roof, dormers, upper shutters, white or one pastel below.

Too squat—Light roof, one pastel for siding and trim.

Too choppy—Same color overall. Warm, deeper tones to increase size; cool, light shades to decrease size (reverse this procedure for interiors).

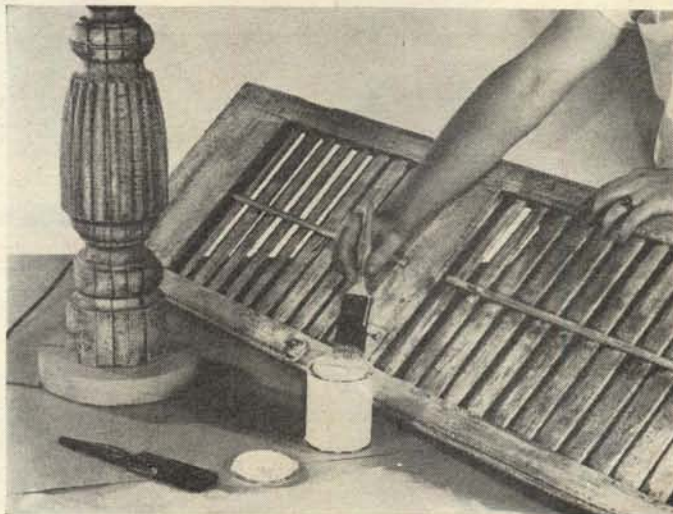
Certain general rules can be applied to all paints, no matter what the color. Use only quality paints. Bargain-priced paints may save you a few dollars in the immediate future, but the need to repaint every year or so will soon absorb any savings you have made. If the manufacturer's instructions say to apply an exterior paint without thinning, do just that, even though the paint may seem quite thick. Diluting paint with thinner to make it stretch just a little farther also is false economy. Wherever the thinned paint is applied the coating will not be as thick as on the rest of the house and will weather more quickly. These lighter spots will give the house a "blotchy" look. The first impression anyone has of your home is from the outside. Make that impression one that will be remembered, and pleasantly, by your guests.

"Dry-Brush" Technique Produces Dappled Finish



ATTRACTIVE NEW decorative finishes can be achieved on do-it-yourself projects by using a new technique, called "dry-brush" painting. Imaginative handymen can make lamp bases from cut-down table legs, wall decorations from discarded shutters, picture frames which accent the basic colors of the print, and other individualistic items, and paint them to create an illusion of antique or pleasantly weathered decorative home furnishings.

Tiresome preliminary sanding is eliminated in dry-brush finishing, since the rough wood surface enhances the dramatic appearance of the completed article. Time-consuming wiping of the painted surface to achieve an antique effect also is unnecessary with one-step dry-



brush finishing. Simply dip brush into paint, remove excess load by pressing the flat surface of the brush against the edge of the can, and complete "drying" the bristles by brushing smoothly on testing surface until most of the paint is worked out of the brush. Then, apply brush lightly to article to be painted. The gentle, stroking action picks up just the highlights of the wood grain or raised surface, resulting in an unusual dappled effect.

Brushes bristled with nylon filament are ideal for dry-brush painting of unsanded articles. Nylon bristles wear well, even when applied to rough surfaces, and normally will last longer than bristles that are made from other types of materials.

Modified Storm Sash

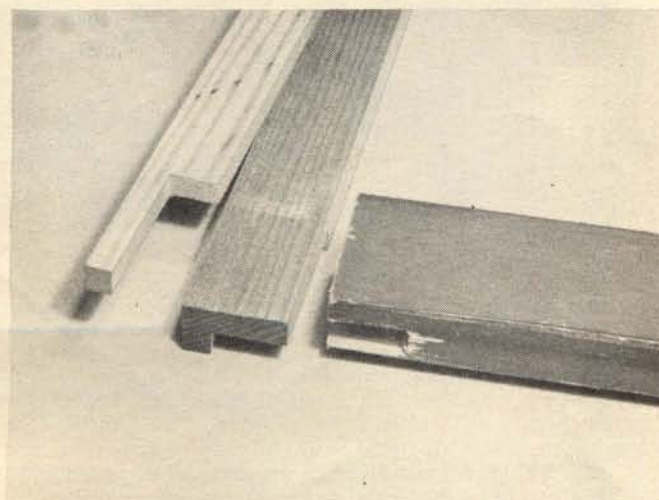
More Convenient to Handle

WALTER E. BURTON

Dividing a storm window into upper and lower units makes for easier handling and cuts down on seasonal changing.



PHOTOGRAPH A—Sawing storm stile in two after removing one pane of glass (this is a two-glass sash). Cut is in line with edge of cross bar.

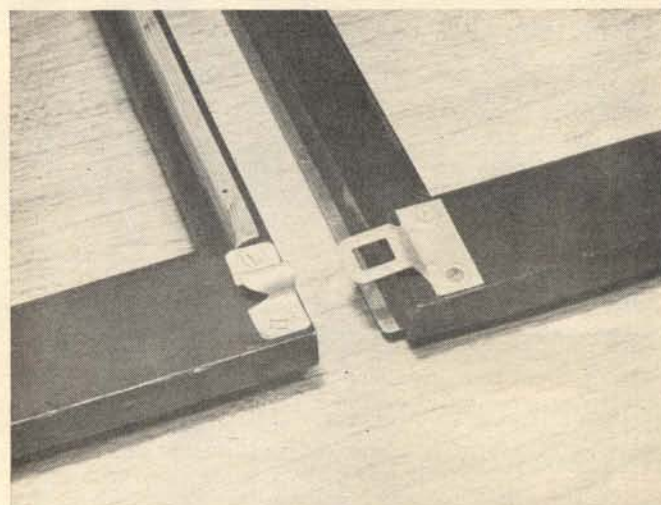


PHOTOGRAPH B—The new top rail of lower sash section was made from two redwood strips shaped for mortising in stile: a single strip of thicker material could have been used. Strips and mortise joints were fastened with water-resistant glue.

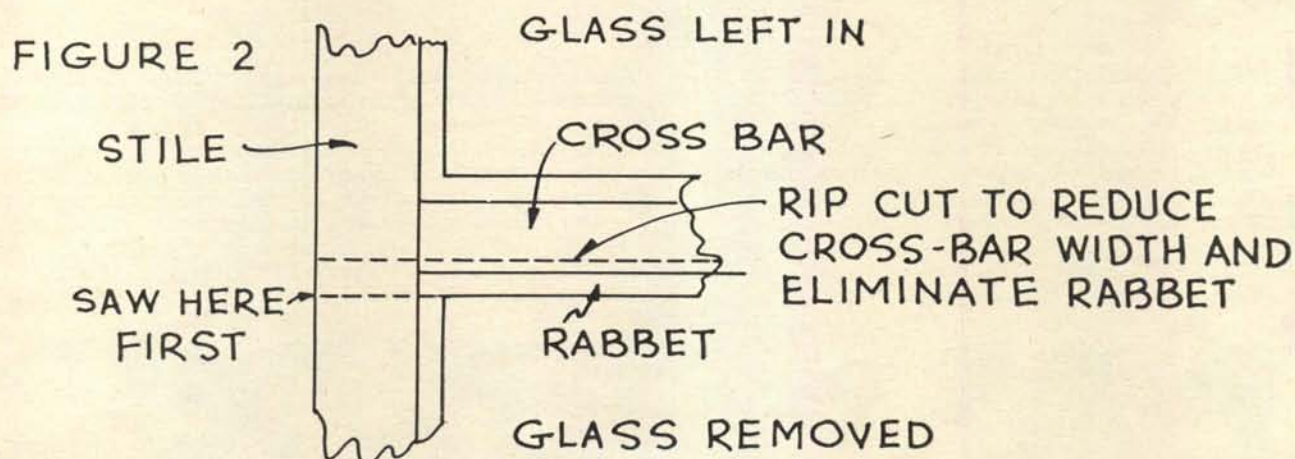
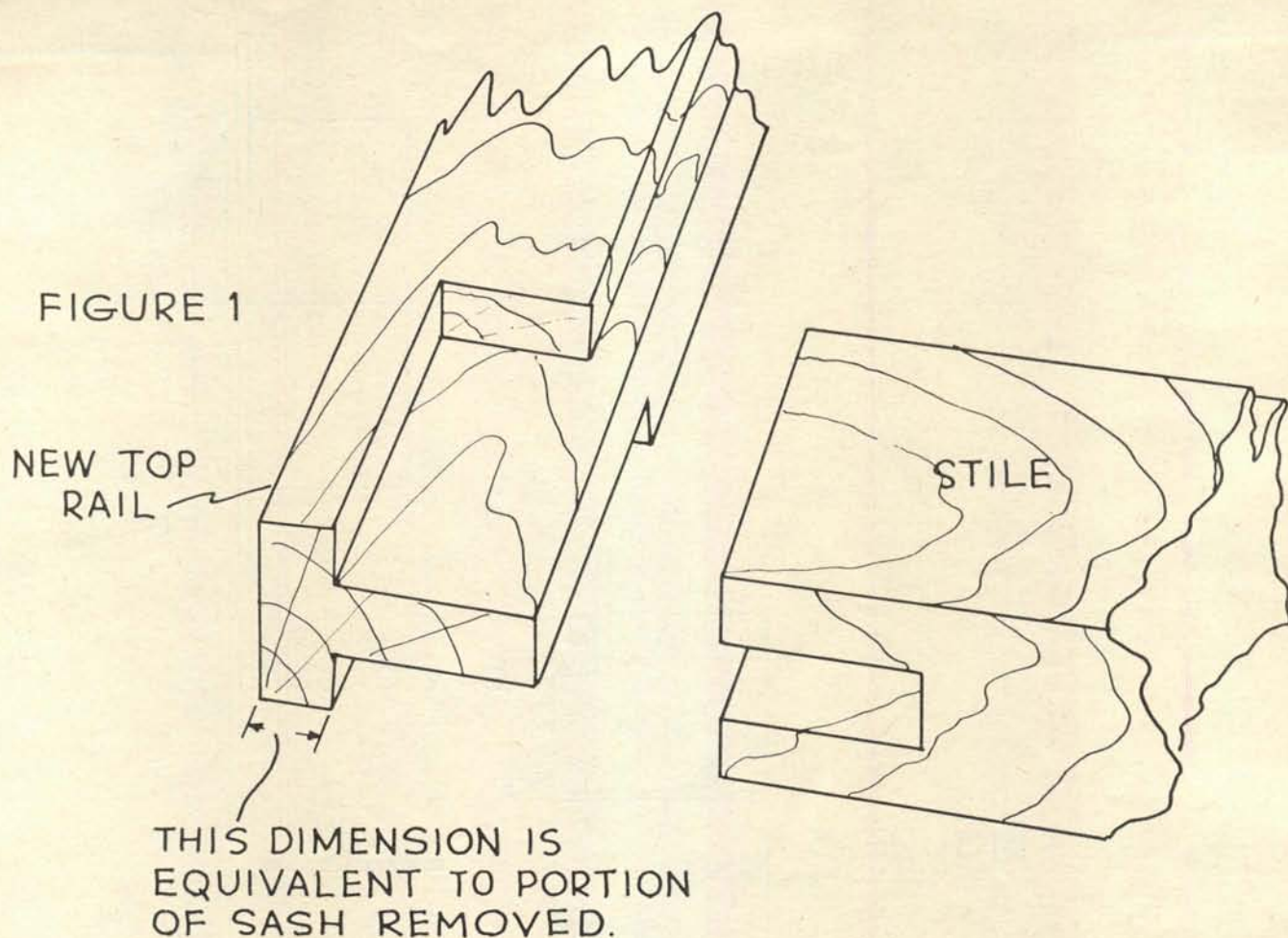
ONE-PIECE wooden storm windows that are difficult to handle because of weight and bulk can be divided into two easily maneuverable sections by a simple operation. This treatment is particularly effective when the storm sash is for an upstairs window and is to be installed and removed from the inside. An added advantage is that the upper section can be left in place the year around, only the lower one being replaced in summer with a screen unit. The photographs show how a wooden storm sash for a double-hung window was cut in two and the resulting halves linked together.

Such a storm window usually has two glass sections separated by a horizontal cross bar, or muntin, placed to align with the meeting rails of the window sash. In the modification, this sash bar is replaced by two sash rails whose combined width is a little greater than that of the bar. The modifying can be done so the additional width occurs in either the upper or lower half of the window. In the example illustrated, the width, a matter of about one inch, was added to the lower section because a sash curtain normally would make it unnoticeable. There was a corresponding decrease in the height of the glass pane in the lower section.

After the glass in the lower half was removed, the stiles were cut by sawing in line with the lower edge of the cross bar (Photograph A). Then a rip cut was made to reduce the width of the cross bar and to remove the rabbet formerly occupied by the glass (Figure 2). It is desirable to make this cross bar (now the lower



PHOTOGRAPH C—Sash sections were joined with aid of a pair of sash hangers of type shown. Redwood drip strip on upper sash has not yet been painted.



rail of the upper sash section) as narrow as possible without weakening it too much. The new upper rail of the lower sash section is of similar width.

The lower sash, which had become a U-shaped frame, was provided with a new upper rail that virtually duplicated the lower rail of the top sash. This new rail was constructed of two pieces of redwood (Photograph B), although a single piece (Figure 1)* could have been used. A mortised joint was used for strength. The portion of the new top-rail width that extends beyond the stiles of the lower section makes the combined lengths of the sash sections the same as the original length of the one-piece sash (Figure 1).

AFTER THE water-resistant glue used in the joints had set, the glass pane was shortened and puttied back into place. Storm-sash hangers of the type shown in Photograph C were used to link the two sash sections. The upper section hangs from a pair of such hangers and is kept from swinging outward by turn buttons near the bottom (Photograph D and E). If such buttons are not available, any other effective fastener that will not interfere with operation of the window sash can be used.

The two sash sections shown were fitted together as tightly as possible. To discourage water from entering the junction, a redwood drip strip (Photograph C and Figures 3 to 5) was fastened, with nails and wet paint,

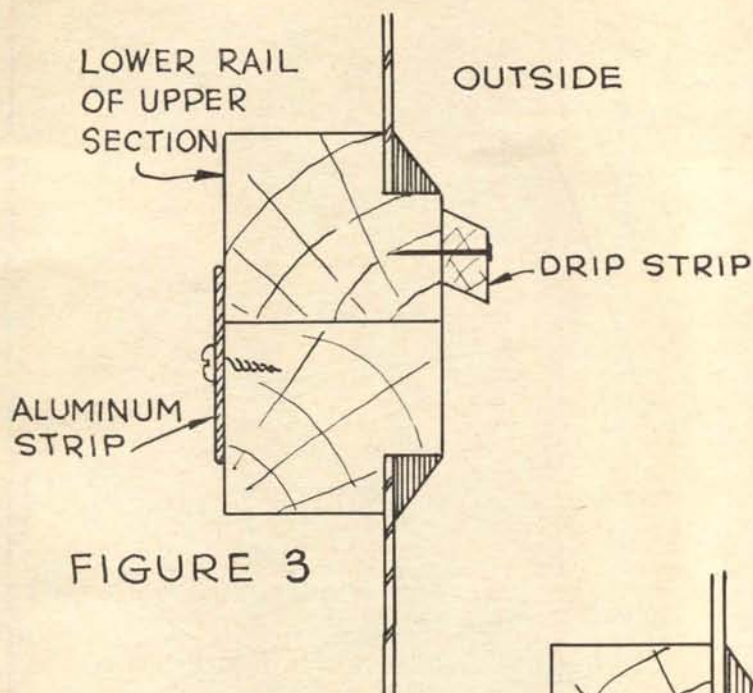


FIGURE 3

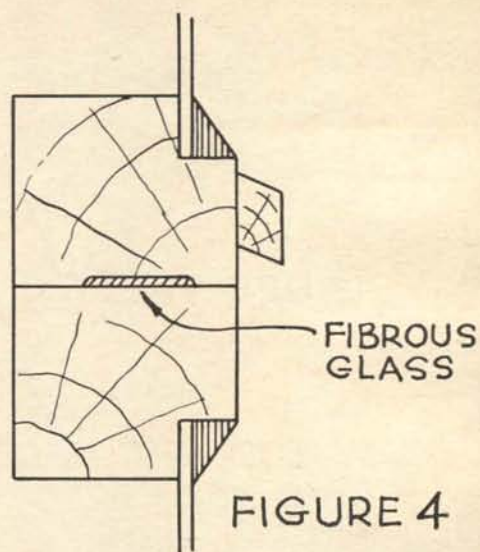
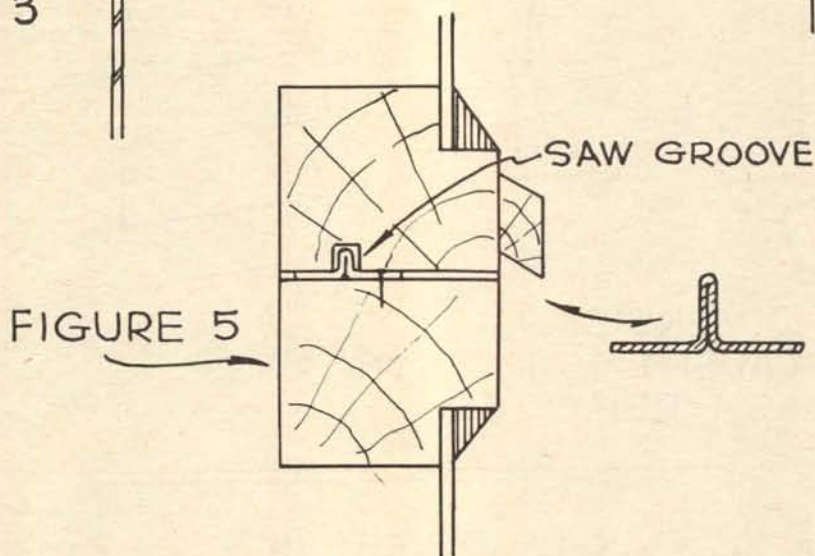


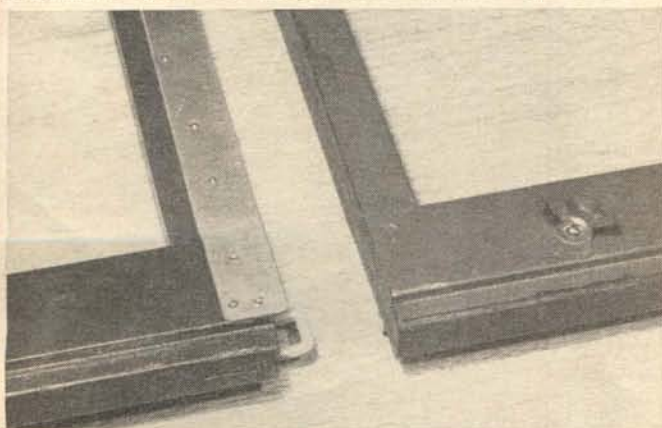
FIGURE 4



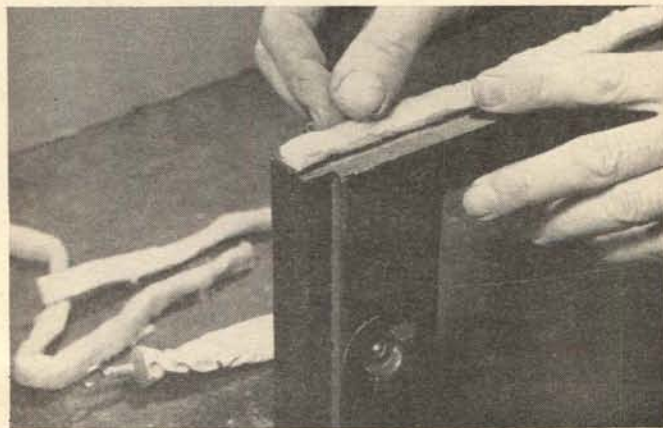
across the lower rail of the upper sash section. Further, an aluminum strip one inch wide was installed across the inside surface of the lower-sash rail to overlap the joint about $\frac{1}{4}$ inch (Photograph D and Figure 3). Figure 5 shows an alternate way of using a length of metal weatherstripping. Another method of sealing the joint against weather, and one that can be used in conjunction with the aluminum and drip strips, is to sandwich between the sash rails a strip of fibrous-glass insulation (Photograph E). The upper sash can be grooved slightly to provide space for this (Figure 4), although the fiber

usually can be compressed to very little thickness. It is fastened to the upper sash with quick-drying "household" type cement.

The lower storm-sash section is kept from swinging by a conventional hook-and-eye installation near each lower corner. This section can be replaced in summer by a similar screen wire unit; or an aluminum-frame screen can be fitted, and held in place by a projecting aluminum strip or lugs at the top (as in Figure 3) and hook-and-eye fasteners at the bottom.



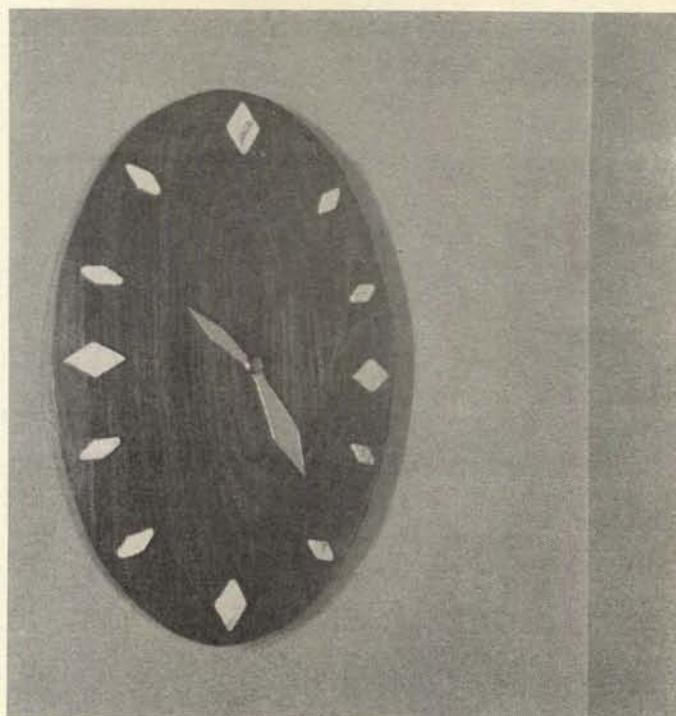
PHOTOGRAPH D—Inside surfaces of sash sections, with upper one at right. Aluminum strip across lower section helps seal joint against weather.



PHOTOGRAPH E—A strip of glass-fiber insulation, glued to upper sash section, can be compressed between sash rails to form a seal against wind, etc.

This Clock Fits Any Decor

DONALD X. FENTEN



LOOKING FOR something different in a clock? Is there a spot in your home that needs a timepiece with a different sort of character than you have been able to find? This clock may fit that need; it can be made to match or contrast with almost any decor.

The clock body can be shaped from any reasonably hard wood; American black walnut was used for the original. The block should be between 2 and 3 in. thick to accommodate the average electric-clock mechanism. First step is to enlarge the squared

half-pattern on a folded sheet of fairly heavy paper. When the pattern is cut out and the paper unfolded, a full pattern will be formed. Surface and sand one side of the wood block to determine the grain configuration, then place the pattern to take advantage of the most attractive grain. Use strips of masking tape to hold the pattern in place, Fig. 1, and when marking its outline on the wood, also mark the center of the pattern clearly, so an impression is made on the wood. After the pattern is removed, draw a circle at the clock center large enough to provide a slight clearance for the clock mechanism that is to be used. These mechanisms can be purchased or one can be salvaged from a discarded electric clock.

The clock body now is rough-sawed to shape on a band saw, Fig. 2. If no band saw is available, any saw can be used, a wood rasp being employed to trim to the pattern line. Now, mark the outside edge of the clock body at $\frac{5}{8}$ in. with a marking gauge. A wood chisel and mallet are used for the next operation, which is to chamfer the block from the center circle to the outside edge, down to the $\frac{5}{8}$ -in. mark, Fig. 3. A wood rasp will smooth up the chiseled surface, Fig. 5, then a belt or disk sander is used for the final polishing, Fig. 4.

A small hole drilled through the center mark on the clock body will transfer the center accurately to the back. Here it is used to draw an

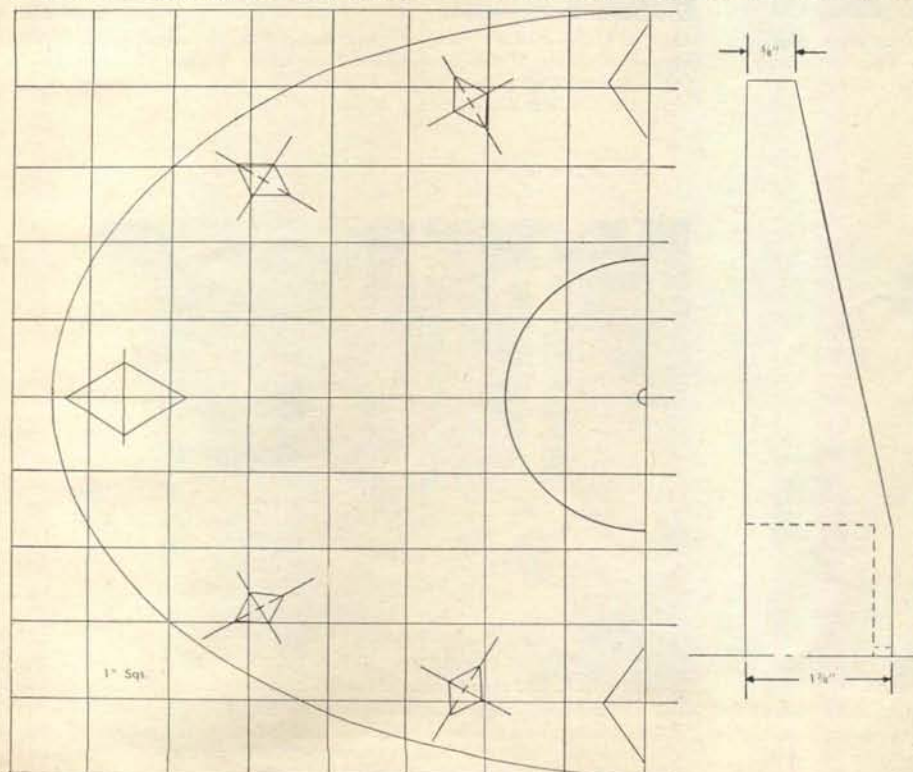




FIG. 1. Pattern of heavy paper is held on finished surface of block with strips of masking tape. Center of pattern is marked clearly so impression shows on surface of wood. This center is used to scribe circle for cutting recess into which mechanism fits.

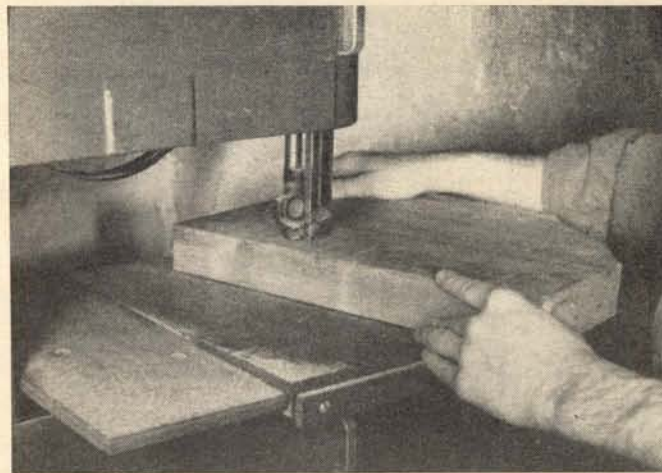


FIG. 2. Marked block now is cut on band saw. If band saw is not available a coping or other saw can be used and rough-cut block trimmed to the pattern line with a wood rasp. Disk sander is ideal for final smoothing, but a sanding block and "elbow grease" will do.



FIG. 3. Mallet and wood chisel should be used carefully so deep chip is not gouged out of body. However, should this happen, make chamfer a sharper angle, edge of clock body narrower. Cut from center circle down to outer edge of block with chisel cuts.



FIG. 4. Rough-chiseled face of clock body can be smoothed on belt sander as shown, if one is available. Keep block rotating to avoid making a flat spot or getting angle of chamfer irregular. Also, fine sanding dust will not improve efficiency of wrist watch.



FIG. 5. If you do not have a belt sander in your shop a wood rasp will smooth out the chisel cuts and permit use of sanding block. Rasp also should be used to rough-cut block before it is placed on belt sander, as it cuts faster, will save time and sanding belts.

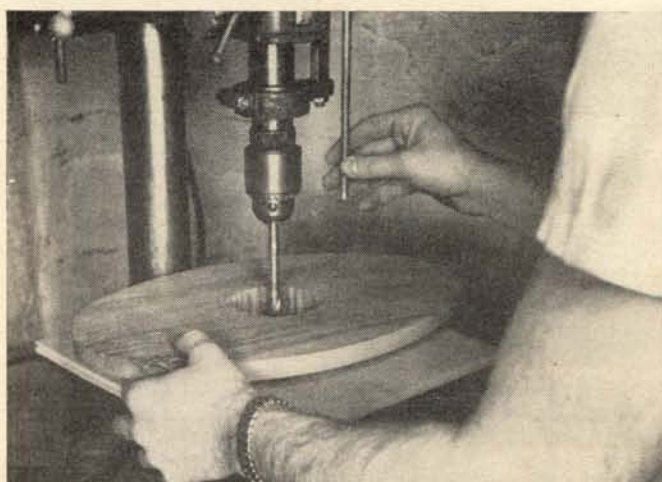


FIG. 6. Recess for clock mechanism is made by drilling a series of holes inside drawn circle on back of clock body. Drill press is best to use, with stop that prevents drilling through block, assures that all holes drilled are of the same depth in the block.



FIG. 7. After holes have been drilled to form recess for clock mechanism, wood chisel is used to smooth bottom of recess and clean up the sides to provide proper clearance.

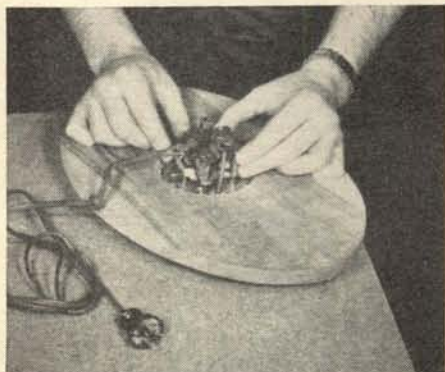


FIG. 8. Clock mechanism is test fitted in recess before permanently fastening. If thickness of block requires, extension sleeves are soldered to shafts of clock.

identical circle. A series of holes are drilled inside the circle to make an opening for the clock mechanism. This is best done in a drill press, using a stop to assure that the bit does not go through the block, Fig. 6. The edges and bottom of the resulting depression are cleaned up with

a wood chisel and mallet, Fig. 7. Before going further, make a test fitting of clock mechanism, Fig. 8.

Drill a clearance hole at the center of the recess — there already is a small hole—for the inner and outer shafts on which the clock hands fit. It may be necessary to solder extension sleeves on the shafts to reach through the thickness of the block. If extensions are necessary, solder them on, then position the mechanism and start it running. Check to make sure that the sleeves do not rub on the side of the hole through the block. This hole should be as small as possible to be inconspicuous, but should provide ample clearance for the shafts or sleeves. Temporarily install the mechanism when it has been positioned so clearance is correct, then remove it while the clock is finished.

The body can be stained, left natural and varnished, left natural and oiled or waxed, or painted. Hour markers for the clock can be of a variety of materials. Those on the original clock were diamonds cut from vinyl tile. They can be chair glides, sheet metal, plastic, contrasting wood or any material that will show against the finish of the clock face. Be sure the markers are spaced equidistant around the clock face. Once again reinsert the clock mechanism and secure it permanently. Hands for the clock can be cut from various materials also. Or, hands can be purchased from a watchmaker. It would be a good idea whatever is done, to cut sample hands and check them for proportion. Should this clock be positioned horizontally different lengths of hands might look better.

Should your workshop not be extensive enough to permit doing all the woodworking operations shown for making this custom-built clock, you can still get a clock with an original look by building one from a kit. These kits require a minimum of tools and working space.

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Do Your Typing The Lazy Way

KARL J. BROUNEUS



FIG. 1. Mrs. Beatrice Brouneus makes use of portable typing stand. Stand also may be used as a small drawing board or letter-writing stand.

HAVE A lot of typing to do, but just can't find the energy or ambition to sit down at a desk to do it? Then here is the project for you; it will allow you to relax and get that typing done at the same time.

This lazy man's typing table is made very similar to a sick-bed table. Although designed primarily as a portable typing stand it also does well as a small drawing board or as a letter-writing table for anyone confined to bed. Even when you are well it allows you to relax on a bed or couch with the typewriter propped up in front of you, Fig. 1.

Made of $\frac{3}{4}$ -in. plywood or 1-in. solid stock (approximately $\frac{3}{4}$ in. finished) the top of the stand measures 15 x 18 in. Four legs supporting the top are cut from solid stock and fastened to the top with $1\frac{3}{4}$ -in. flathead wood screws. The screw heads are countersunk in the legs. Fastened to the bottoms of the legs are the two base strips that measure 2 x $13\frac{1}{2}$ in. These strips, marked "C" on the detail, serve two purposes. First, they help brace the legs of the stand and second, prevent the sharp corners of the legs from tearing holes in upholstery. The base strips are attached to the legs by $1\frac{3}{4}$ -in. flathead wood screws, Fig. 2.

Metal shelf brackets are used between the front legs and top of the typing stand to assure that the legs do not become loose. These brackets provide the necessary bracing without interfering with the usefulness of the stand. A ledge, or strip, marked "D" is used to prevent the typewriter from sliding off the stand. It is fastened to the back edge of the top with countersunk $1\frac{1}{4}$ -in. flathead wood screws. This strip, with all parts of the stand, can be cut from either plywood or solid stock.

Both screws and glue are used when screws are driven into the edge grain of plywood. Drill pilot holes of sufficient size so the laminations of plywood are not forced apart when the screws are driven into it. The finished stand can be shellacked and varnished or painted to simplify the cleaning problem.

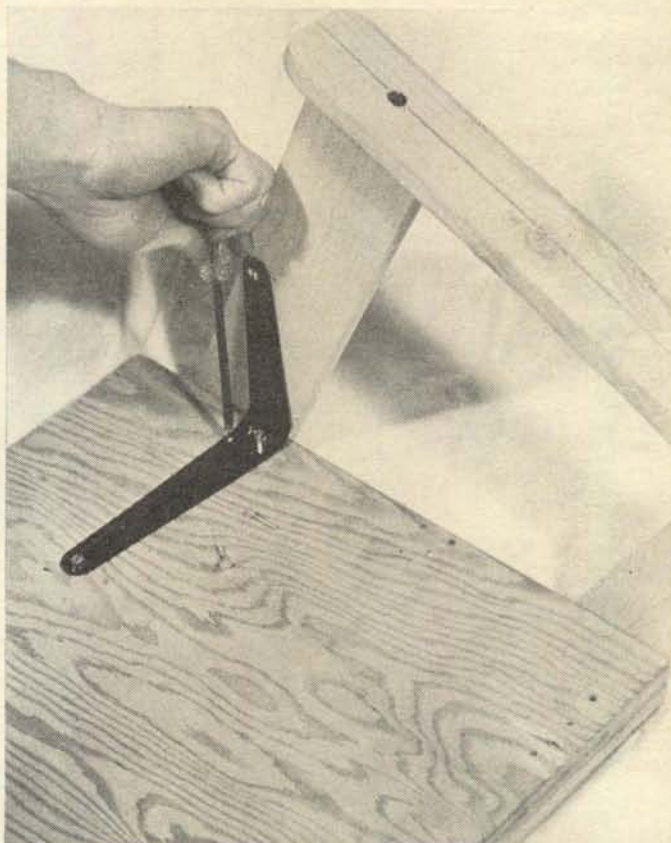
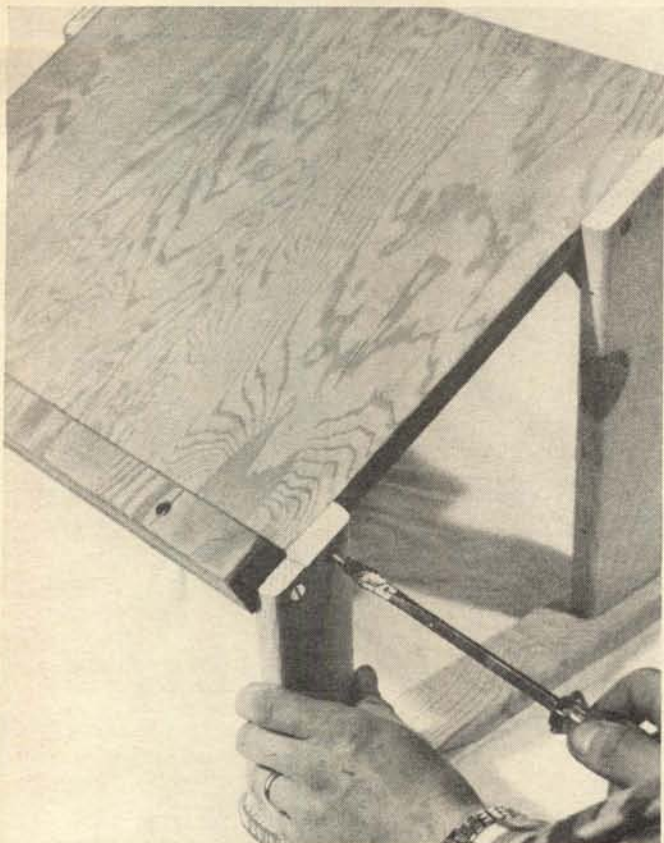
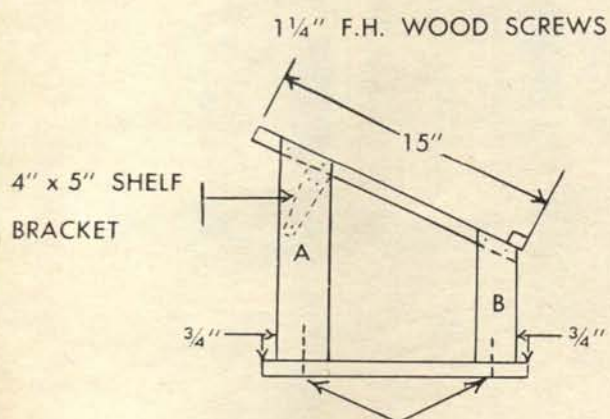
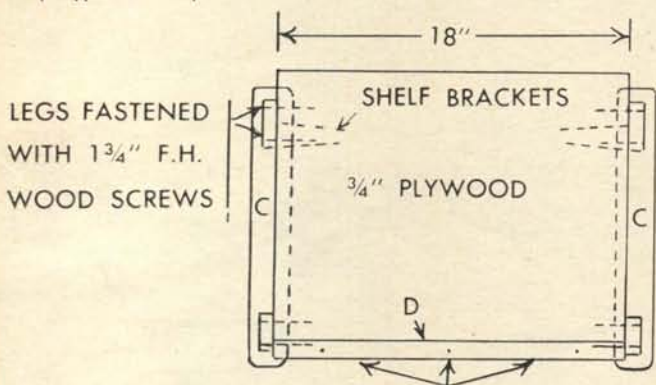


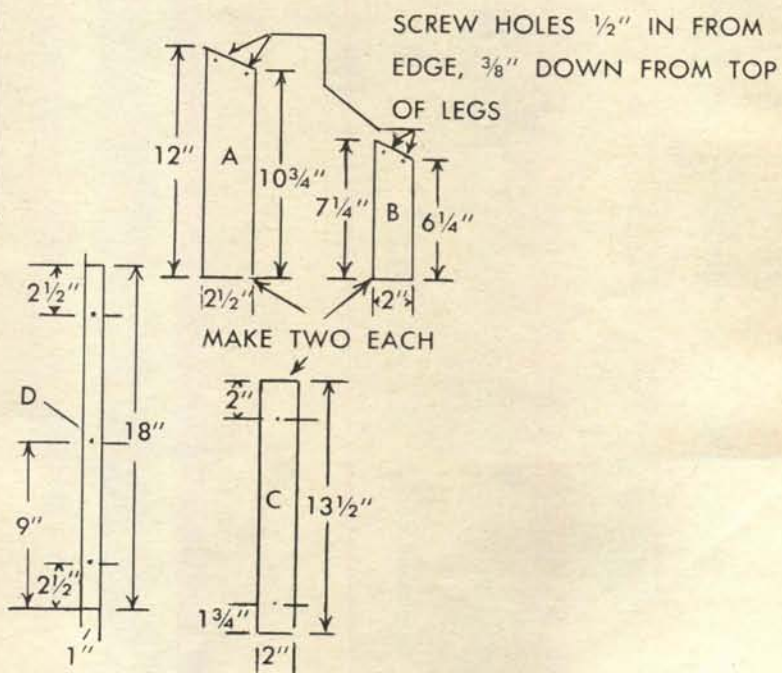
FIG. 2. Legs are attached to the $\frac{3}{4}$ -in. plywood top by $1\frac{3}{4}$ -in. flathead wood screws countersunk into the legs. The ridge at lower end of top keeps typewriter in place.

FIG. 3. To make stand more rigid, 4 x 5-in. shelf brackets are added as braces. Note that corners of the base strip, C, are rounded. This strip is attached to legs with 1¾-in. flathead wood screws.



BASE C FASTENED TO
LEGS A AND B WITH
1 $\frac{3}{4}$ " F.H. WOOD SCREWS

LEGS A AND B, BASE C AND
LEDGE D ARE MADE OF $\frac{3}{4}$ "
PLYWOOD OR SOLID STOCK



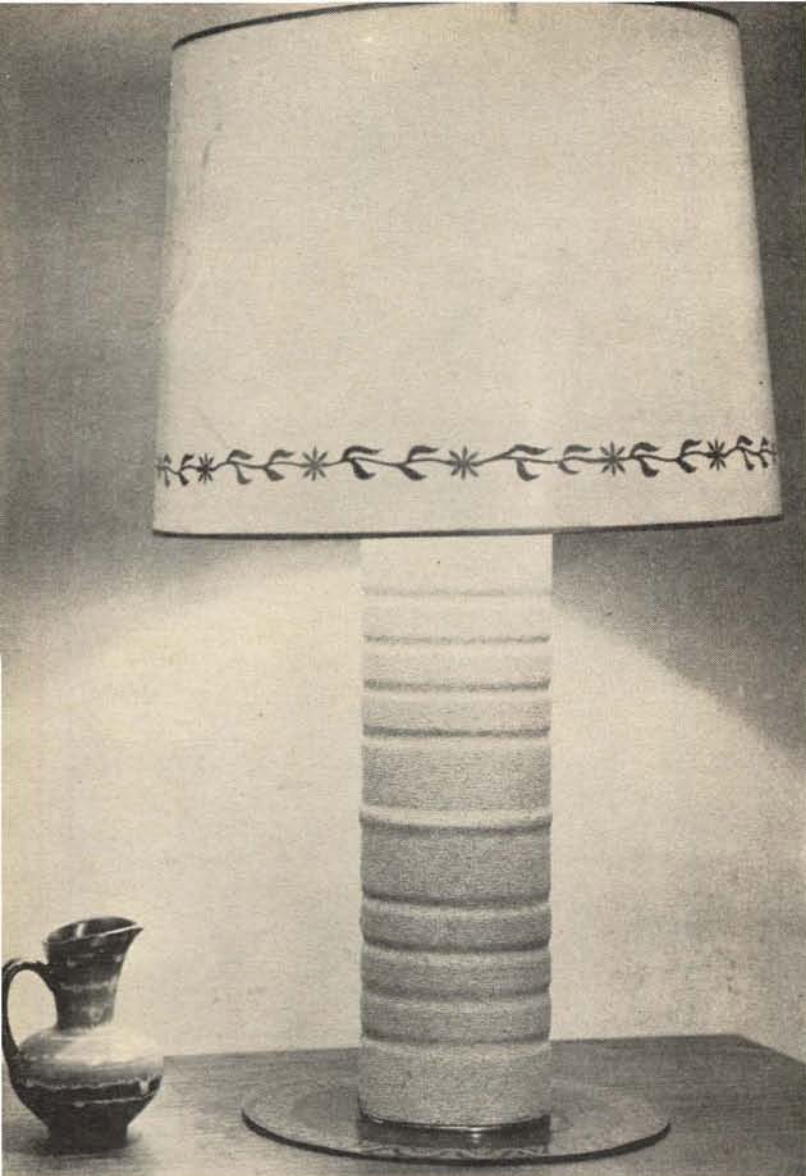


FIG. 1. Slender and graceful, yet heavy enough so it will not topple easily, this lamp has a column made from tall fruit-juice tins. Easily cleaned vinyl fabric disguises the tins, gives lamp a custom-made look.

Classic Lamp From Juice Tins

RALPH TREVES

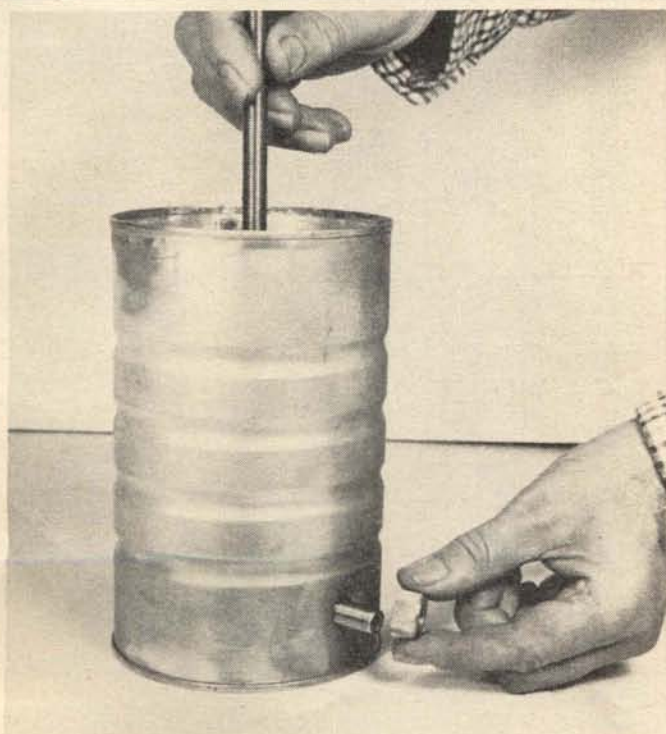


FIG. 2. After end is cut from each tin, hole is punched in end of one and the side of other to accept $\frac{1}{8}$ -in. threaded electrical pipe through which lamp cord is threaded. Locknuts are used to hold the pipe in place when tins are placed with open ends together.



FIG. 3. Two holes are punched in end of what will be bottom tin and plaster of Paris is poured in to fill tins past the joint. Joint is sealed with masking tape that is removed after plaster has been allowed to set for 24 hours.



FIG. 4. Cardboard disk is cemented to lower end of column to seal openings through which plaster was poured, then heavy felt pad is cemented over this to protect furniture finish. Material is cemented to opposite end, then trimmed to size with razor blade or hobby knife.

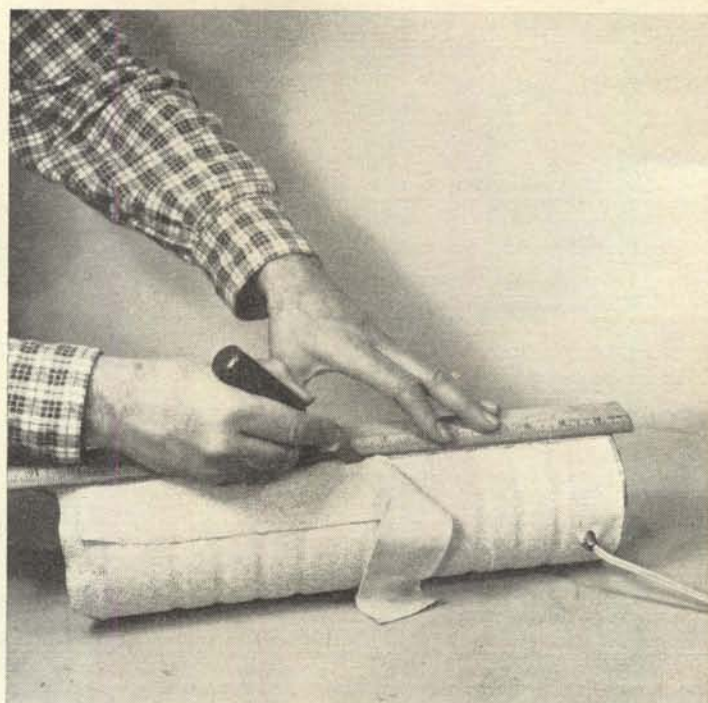


FIG. 5. Material is attached to column with contact adhesive, overlap of material is trimmed by using hobby knife and straightedge. Resulting butt joint is no wider than cutting edge of knife. Locknut on projecting pipe is removed, replaced after material is on.

ATTRACTIVE AND well proportioned, this table lamp, Fig. 1, utilizes two large fruit-juice tins for its column. Grooves around the column that give it a classic look result from forcing the covering material into the grooves in the metal containers. Washable vinyl fabric, available in a variety of colors and embossed designs, is suggested as the covering material. If you have just reupholstered some of your furniture, a scrap of the material used would be ideal for the lamp, assuring an exact match. This would lower even further the cost of the lamp, which is about two dollars, excluding the price of a shade. Beside the two juice tins you will need a 24-in. length of threaded $\frac{1}{8}$ -in. pipe, a $\frac{1}{8}$ -in. pipe elbow, a lamp harp, socket and a length of lamp cord. From five to eight pounds of plaster of Paris are needed also. After selecting two tins, free of dents, use a can opener and remove one end from each tin. Next, cut a 12½-in. length of the threaded pipe and a 2-in. length. (Save the remainder of the standard 2-ft. length for future jobs.) Join the two lengths of pipe with the elbow. Punch a hole in the center of the end of one tin to provide a snug fit on the pipe, and cut a similar hole about 1 in. from the bottom in the side of the other tin. The pipe assembly now is fitted into the two tins and held with locknuts, Fig. 2. The cord is fished through the piping and the joint between the two tins sealed with masking tape. Two holes are punched in the end of the bottom tin and plaster of Paris is poured into the holes, using a funnel, Fig. 3. If five pounds of plaster are used the lamp column will be filled past the center seam, while eight pounds will fill the column completely. After the plaster has been allowed to set for 24 hrs., the tape is stripped from the joint and a cardboard disk is cemented to the end to seal the openings through which the plaster was poured. An oversize disk of covering material then is cemented to the column top and trimmed to size with a razor blade or sharp hobby knife, Fig. 4. Contact cement now is applied to the lamp column and the material and it is applied. A straightedge is placed on the overlap of the material and a razor blade or knife is pulled along the straightedge, Fig. 5, to make a neat butt seam. The material then is pressed into the

grooves in the column and heavy rubber bands are fitted in the grooves, Fig. 6, to keep the material in place until the cement has set completely.

The locknut on the upper end of the pipe is removed, a harp fitted on the pipe and the locknut used to hold it in place. The locknut on the pipe projecting through the side is removed when the material is applied, then replaced. Add a shade, the lamp is finished.

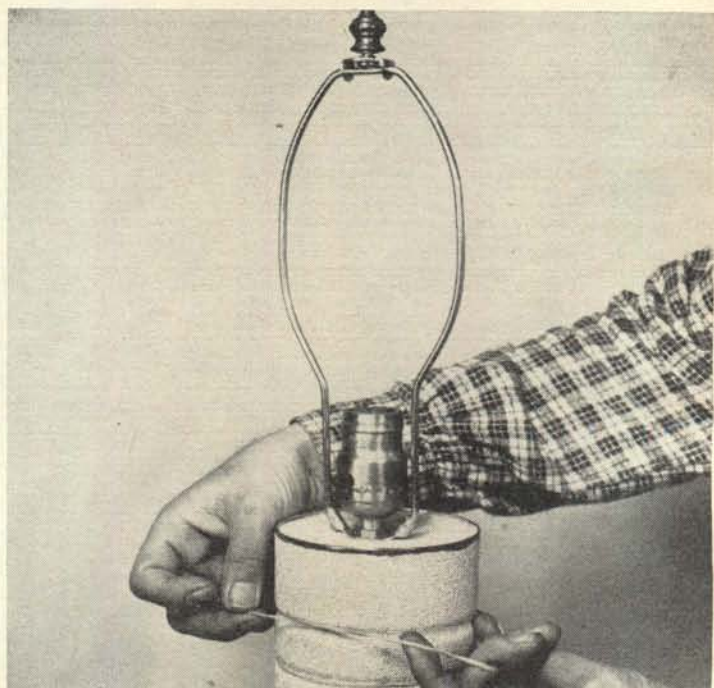
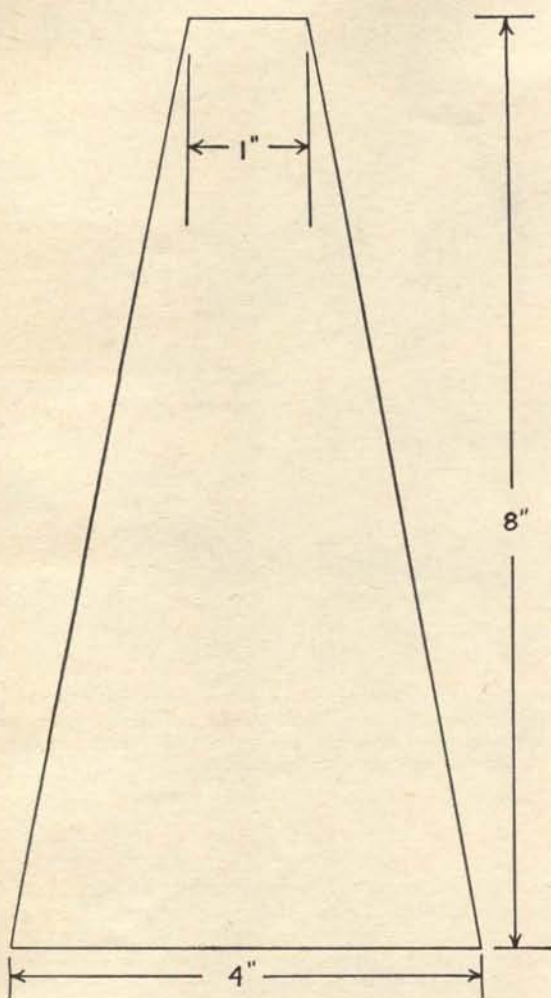


FIG. 6. Material is pressed into grooves in juice tin, then held in place with heavy rubber bands until cement has set completely. Locknut on lamp top is removed, harp is fitted on pipe and locknut used to hold it in place. Lamp is finished when shade is added.



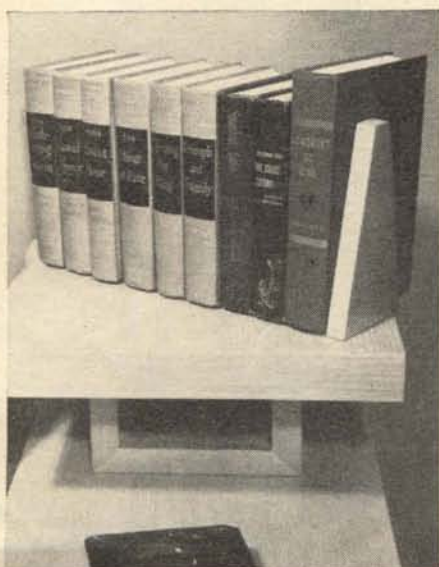
Step 1

Step 2



Book Ends *with a modern look*

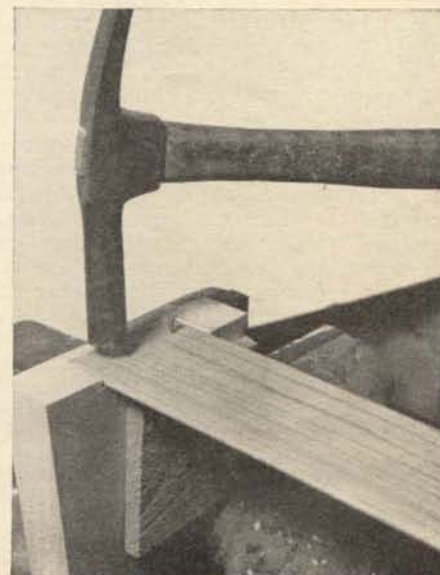
EARLE W. THOMPSON



HERE'S HOW the book ends look in use. They are ideal for use on end tables or atop cabinets or TV sets.



Step 4



Step 5

EVERYONE KNOWS that books are valuable sources of information and entertainment. But most people tend to overlook the value of books as a decorative element in a home.

A colorful display of books can do a great deal toward making a room look warm and lived in. It's not necessary to have a wall of bookshelves, or a case crammed with layer on layer of volumes to get the benefit of this color accent.

A few books, displayed in an attractive way, will do the trick. The good-looking easy to make book ends described in this article can help to solve the how-to-display problem.

All that is needed to make these book ends is a scrap of unfinished Venetian blind slat, two small blocks of wood, some felt, and a few simple tools. Almost anyone can make these book ends in an evening, and they can be finished to blend or contrast with any room's color scheme.

STEP 1—The first step in making these book ends is to clamp two pieces of 4 x 8 x 3/4-in. wood together and cut them to the shape shown in the diagram. Use small blocks of scrap wood to keep the clamp from marring the wood. Sand off any roughness left by the saw.

STEP 2—Clamp one of the pieces in a vise and mark the center of the bottom. Then mark the center of an unfinished Venetian blind slat. You can get scrap pieces of slats from almost any Venetian blind manufacturer or pick up old blinds around the house or from secondhand stores. If such slats aren't available, substitute a 2 x 8-in. strip of 1/16-in. plywood, or a suitable strip of aluminum. Align the two center marks as shown and mark the outline of the end of the slat.

STEP 3—With a sharp chisel make a shallow cut around the line you have marked. Be careful not to cut too deeply as the wood may split.

STEP 4—Use a narrow but very sharp chisel to cut away the wood as shown.

STEP 5—Continue the process shown in Step 4 until the Venetian blind slat fits snugly in the depression and is flush with the bottom of the upright piece. The slat should be about 8 in. long. Attach the slat to the upright with a good grade wood glue and two small nails.

STEP 6—Sand the book end thoroughly, apply a coat of wood sealer and sand lightly. You may stain or paint the book end if you prefer, or leave it natural wood with a coat of varnish. Then coat the bottom with glue and press the book end down on a piece of thin felt.

STEP 7—Trim away the excess felt with scissors and the job is done. Repeat the process for the other book end.

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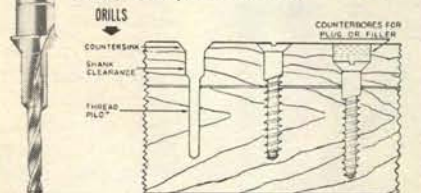
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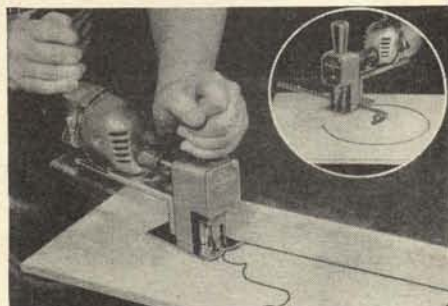


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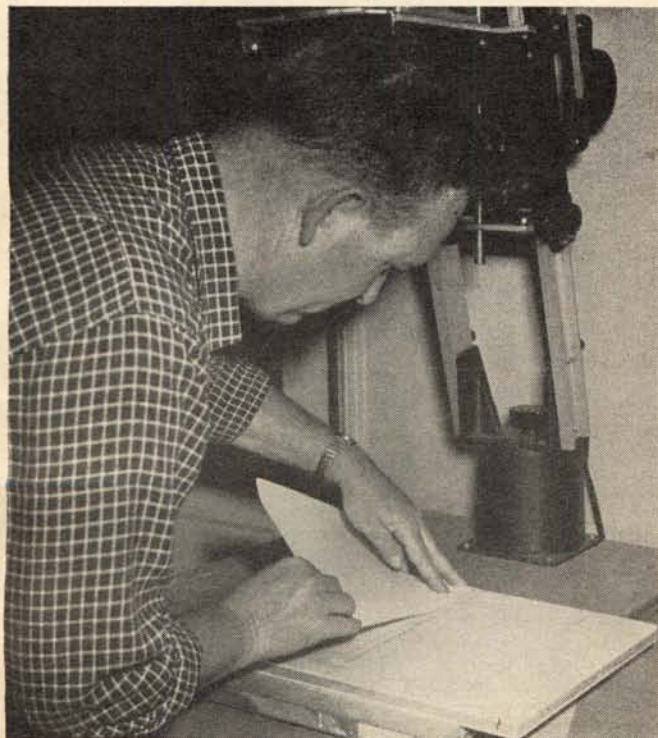
Inexpensive Borderless Photo-Print Easel

JACK B. KEMMERER



PHOTOGRAPH 1

MOST PHOTOGRAPHS used for exhibitions, mounting and other special purposes are usually made without borders. And, of course, in making a print without borders



PHOTOGRAPH 2

you get a larger and more impressive picture on the same size piece of paper. Yet, there isn't an easel on the market—at least stocked by the average photo supply store—that will allow you to make borderless prints quickly and easily.

Here is a borderless print easel that can be made in five minutes using only a pencil, ruler, ordinary scissors, double-coated Scotch tape, and a piece of scrap plywood. And what's more the only cost is the few cents required for the roll of tape and the piece of scrap lumber.

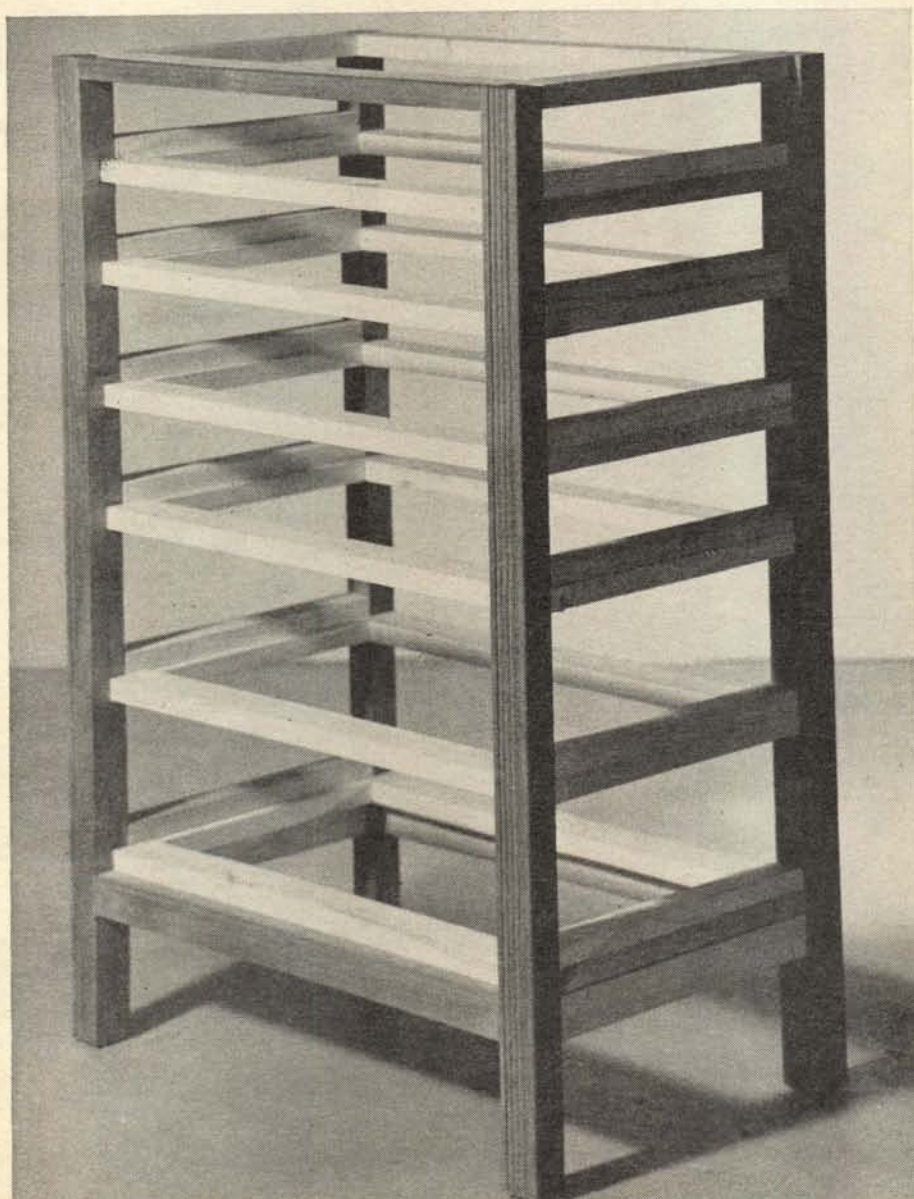
Any piece of flat wood large enough to handle the largest size print you want to make can be used. A piece of scrap plywood from the local lumberyard will serve the purpose. Lay off the various sizes of prints that you want to make with a pencil and ruler on the plywood sheet.

When you are ready to use the easel, put double-coated Scotch tape along the pencil lines of the desired size (Photograph 1). The wider the tape, the better the photo paper will stick to the easel. And, of course, with the tape being coated on both sides, it sticks to the board as well.

To use, merely place easel under the enlarger and focus directly on the board. The board may be painted white for easier focusing or a piece of paper may be used. Once the negative has been focused and cropped, place the photo paper on the easel (Photograph 2), securing one corner of the paper first and then running your finger lightly around the edges to stick the remainder of the paper to the easel. Once the exposure has been made the paper will peel easily off the tape without pulling it loose from the easel surface. The tape will serve for a large number of prints before replacement is needed.

Cabinet For a Photographer

HOWARD R. CLARK



COMPLETED FRAMEWORK with drawer guides in place.

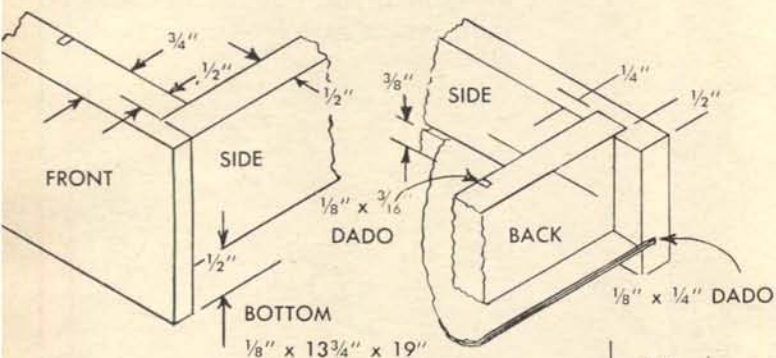
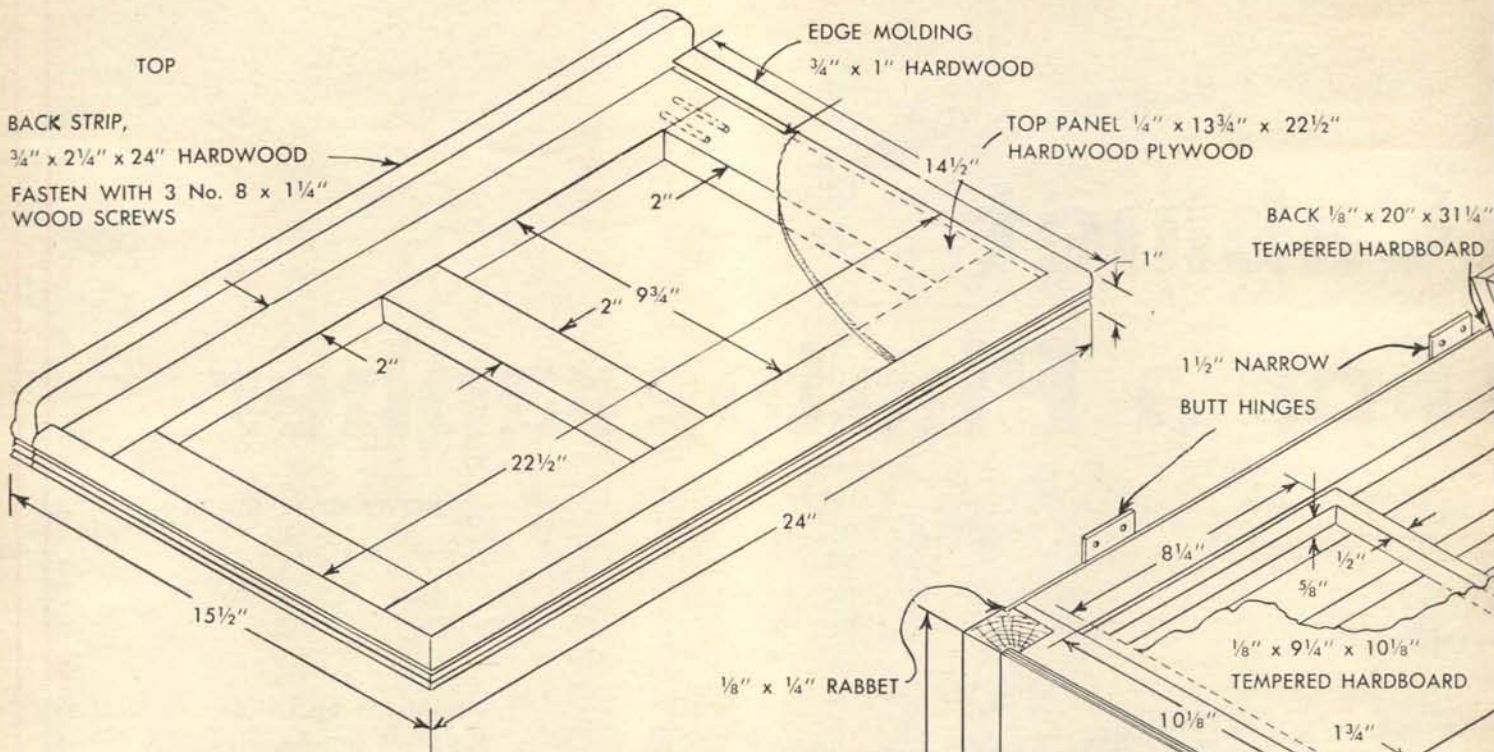
Negatives and slides as well as supplies can be filed and stored in orderly fashion in this cabinet, which also features a built-in viewer.

IF YOU take lots of pictures, the matter of filing and storing the negatives and slides soon becomes a problem. Here is a negative and slide file which will take care of your needs for a long time to come and is good-looking enough to appear in any room in the house. Moreover, there is room for extra film, film holders, filters, and all the gadgets that amateur photographers are prone to collect.

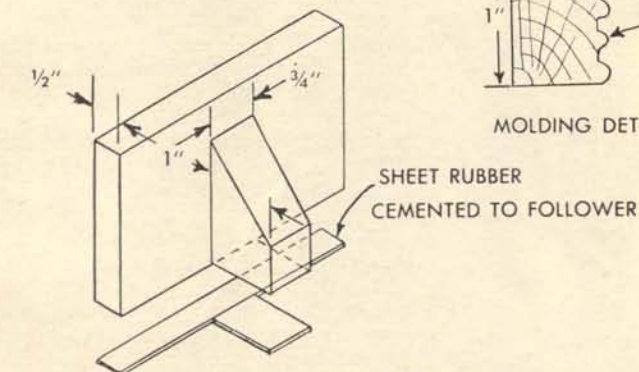
This cabinet also features a hinged top, giving access to a built-in viewer and work surface. The viewer becomes the support for the top in its raised position. Illumination for the viewer is supplied by a small lamp of the sewing-machine type mounted on a suction cup base. The lamp can be placed in the top drawer or set on the work surface so that its rays are reflected from the foil-lined lid.

The cabinet described here is designed to accept 35 mm. negatives and slides, and $2\frac{1}{4}$ " x $3\frac{1}{4}$ " and 4" x 5" negatives, with two drawers for each size. The dimensions may be altered, of course, to fit your own requirements. Spacing of the drawer partitions, which are $\frac{1}{8}$ " tempered hardboard, is also optional.

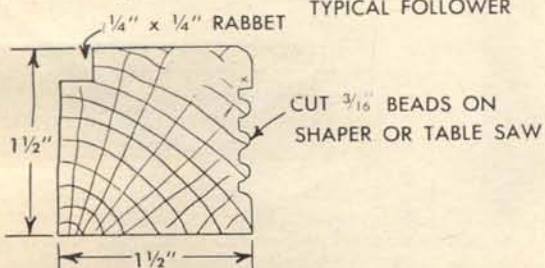
TOP



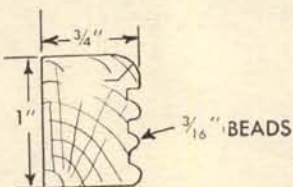
DRAWER DETAIL



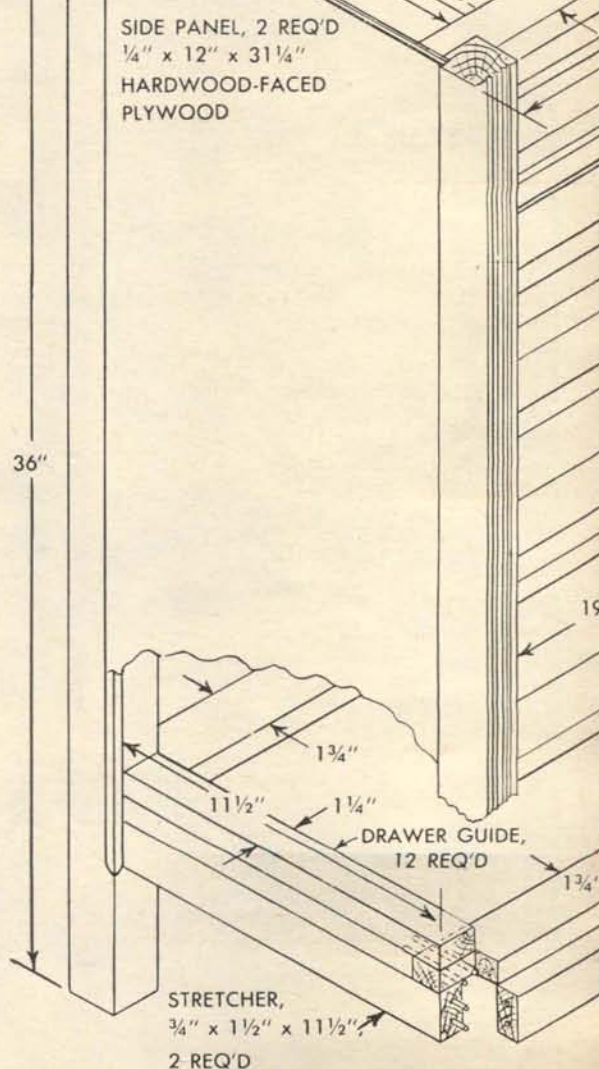
TYPICAL FOLLOWER



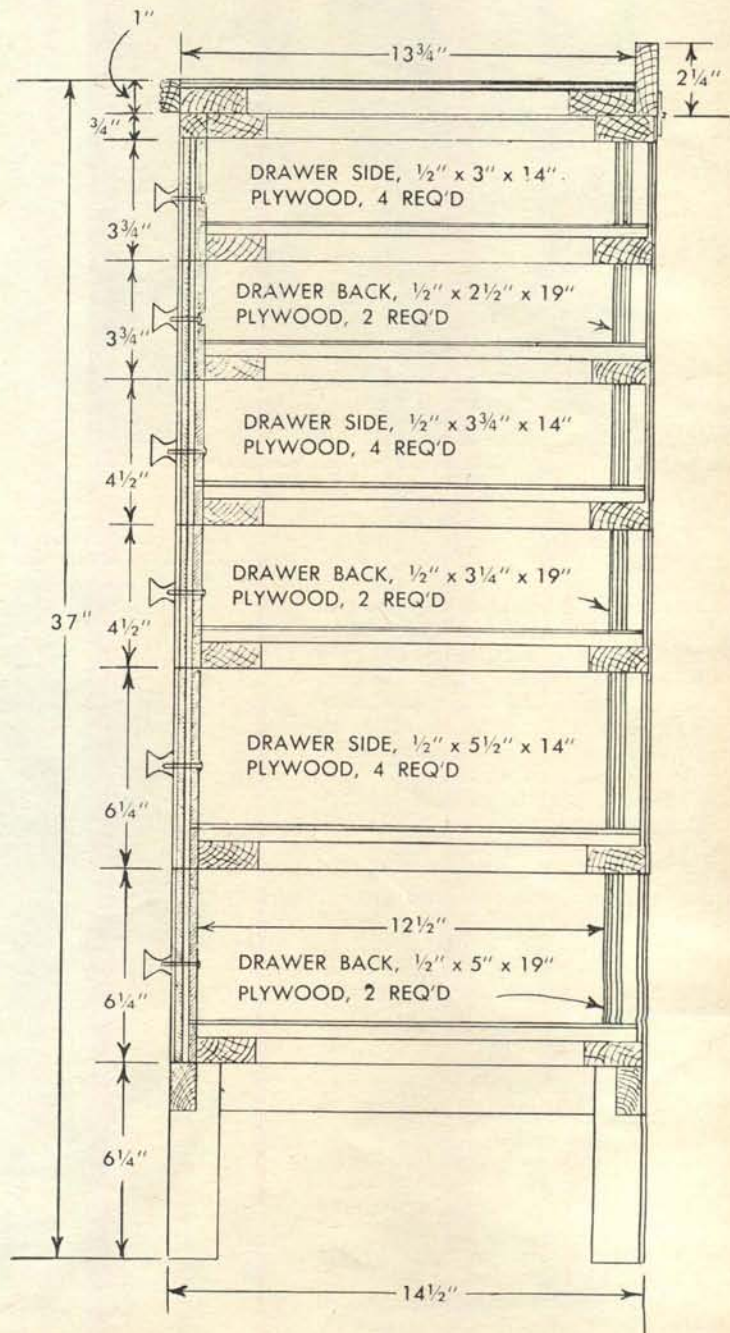
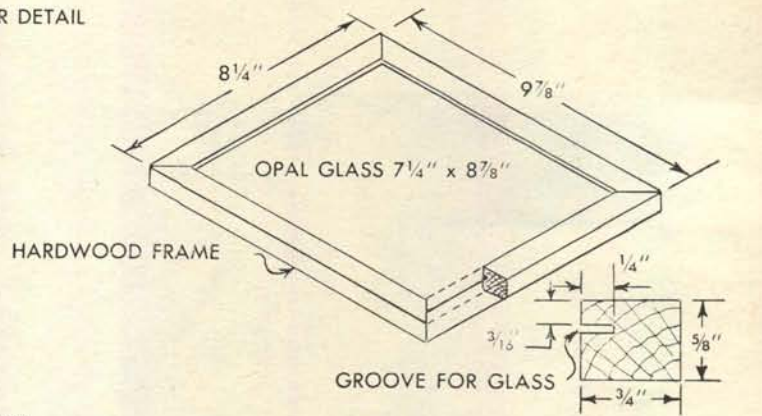
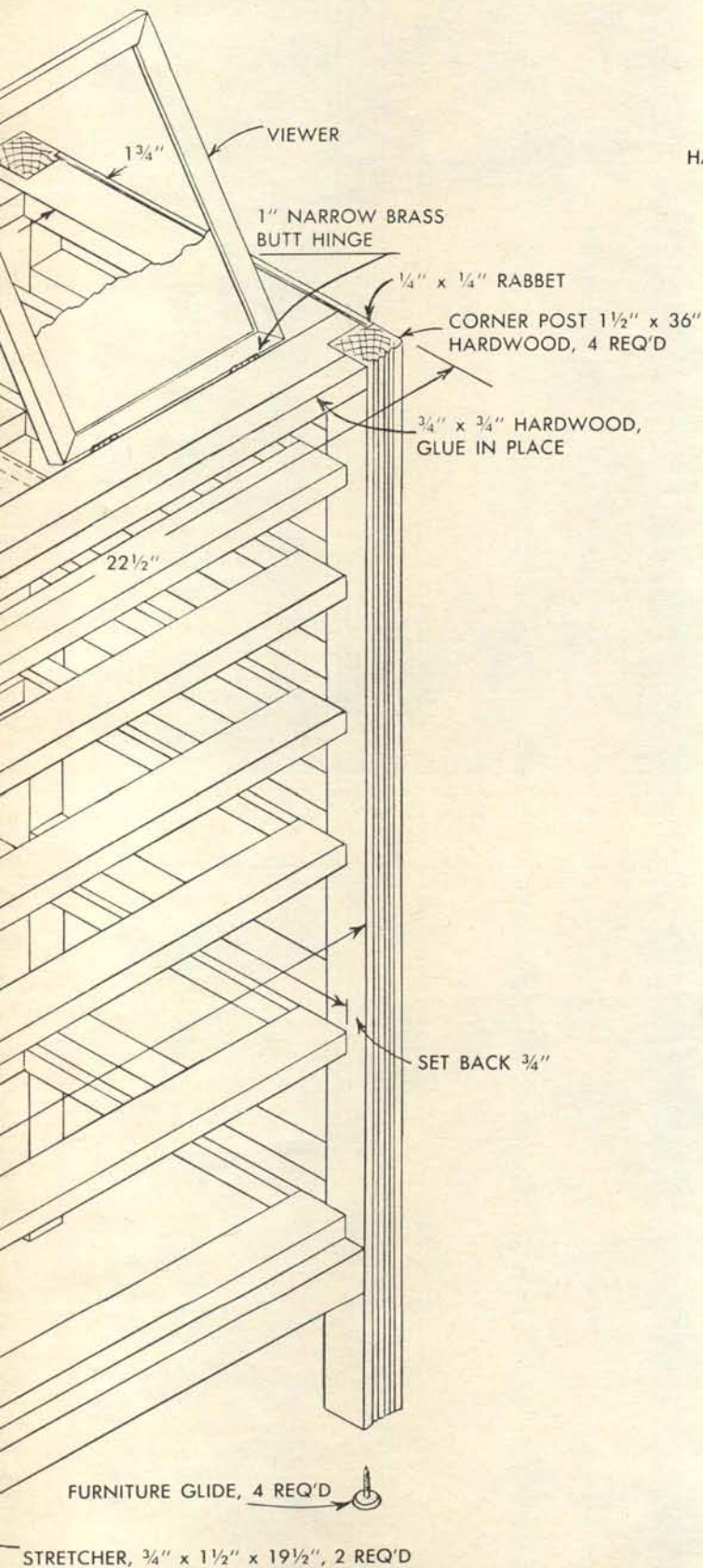
FRONT POST DETAIL



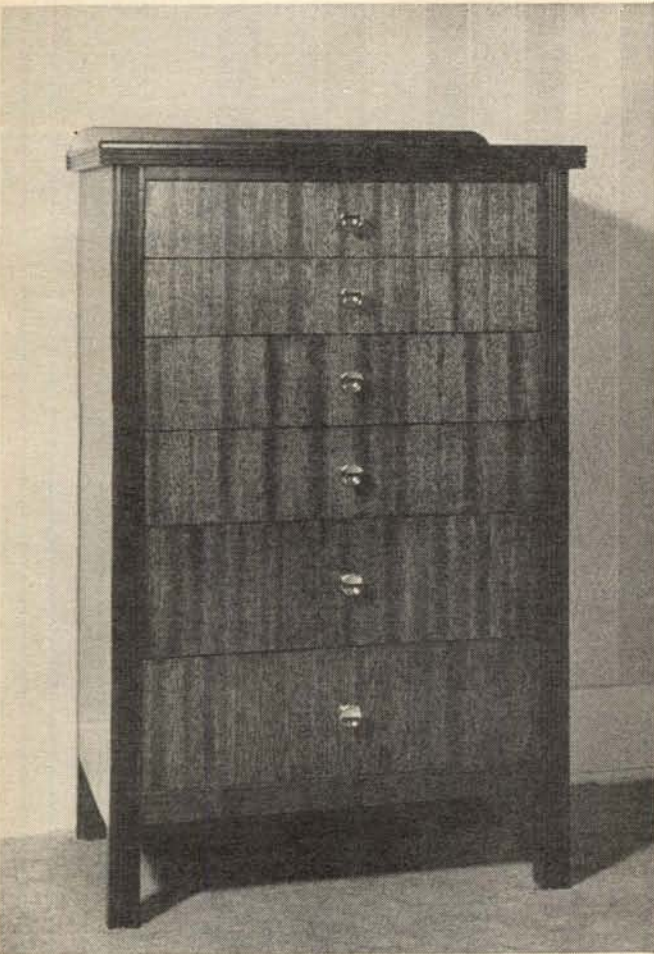
MOLDING DETAIL



VIEWER DETAIL



SECTION AT CENTER



DRAWERS are more easily fitted before the sides and back are installed.



FINISHED FILE CABINET is a handsome piece that can take its place in the living room if you wish.

Use walnut or mahogany for all exposed frame members and matching plywood for the side and top panels. Back, drawer partitions, drawer bottoms, and the small sub-top are $\frac{1}{8}$ " tempered hardboard. Hidden frame members are white pine that is easily worked.

The drawer supports and the upper frame parts are all identical, making seven of these units required. They are assembled to the corner posts with dowels and glue.

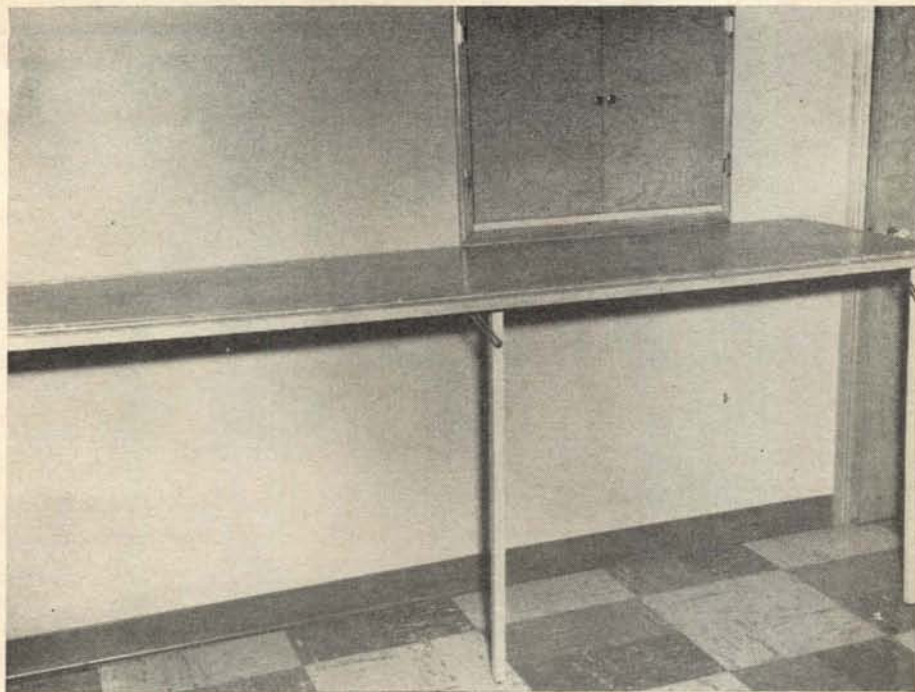
Drawer fronts can be solid stock, $\frac{3}{4}$ " hardwood-faced veneer, or, as was done in this case, you can build them up by gluing $\frac{1}{4}$ " hardwood faced plywood to $\frac{1}{2}$ " fir plywood. Drawer sides and backs are $\frac{1}{2}$ " fir plywood, and the knobs are $1\frac{1}{4}$ " concave polished brass.

The completed cabinet is finished with a suitable stain, followed by matching filler, two coats of gloss varnish, and a final coat of satin varnish. Stain and sealer are given wash coats of orange shellac, and all coats except the last are lightly sanded with 5/0 garnet paper.

You will find that a cabinet of this type, with all supplies stored inside, will make negative filing a pleasure instead of a headache.

VIEWER IN USE. Illumination is supplied by sewing machine lamp mounted on suction cup base. Viewer may be built into left side of cabinet, if you prefer, with working space on right.





buffet table folds against wall

GROVER BRINKMAN

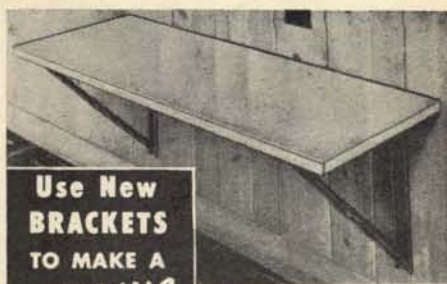


In today's homes, the basement is no longer a "cellar"—it's a livable area of the house, a many-purpose section, given over to games, entertainment, a rathskellar, etc.

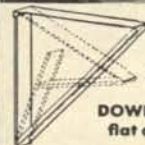
The fold-up snack table shown here is one of a number of innovations in the basement of the Richard Bonnell home at Columbia, Illinois. Built of plywood, reinforced on the sides and ends, it has three folding legs of the type used under card tables. Where it would be more convenient to keep the floor clear, Droptop brackets would be ideal. When table legs are used, it is necessary to use three strap hinges on the wall so the table can be pulled up and the table

dropped down. The table can be raised by one person in seconds, and despite its light weight is strong and durable, and will hold ample food for a buffet supper for a dozen or more guests. Notice the dumb-waiter (doors above table) upon which food can be sent down from the kitchen above.

When not in use as a buffet table, it can be put to many other uses, as any housewife will testify. Its cost is negligible, and it can be made in any size to fit a given wall. Its fold-up feature, according to Mrs. Bonnell, is a feature she likes very much, for when not in use, it clears the floor for other activities.



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FIG. 1. Shown are a number of the various type of pliers available. Top row, left to right, arc-joint; toothed jaws, arc-joint; smooth jaws, clamp-type; curved jaws, combination (gas); slip-joint, combination; small, side cutter; slip joint, two-jaw gas pliers. Center is bent needle-nose. Bottom row, left to right, end-cutting nippers, nippers, lineman's side cutters, needle-nose; side cutter, diagonal cutters, wide-jaw diagonal cutters, needle-nose.

RALPH TREVES

IF YOU have only a couple of sizes of ordinary slip-joint gas pliers in your toolbox it definitely will pay you to investigate some of the many types of pliers that now are available, Fig. 1. Some types of pliers can be used handily in place of pipe wrenches when fitting smaller sizes of pipe. Others can be used to clamp workpieces together for drilling, welding or cutting, leaving both

your hands free for working. Arc-joint pliers, Figs. 3 and 5, usually called water-pump pliers, have dozens of uses where a strong grip and good leverage are required. They can be used for pipe fitting and do well on gripping the flat or irregular surfaces of fittings and valves. Water-pump pliers get their name from the fact that originally they were used to tighten the nuts

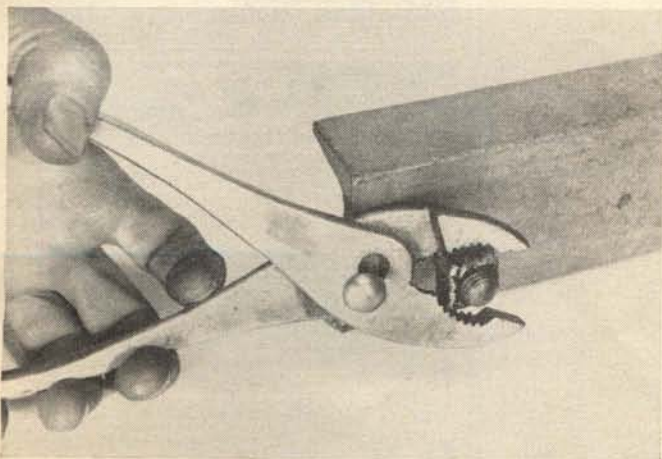


FIG. 2. Good pliers, but poor usage. The nut is so badly chewed by the plier jaws that a wrench is not likely to fit. If a nut is "frozen" use clamp-type or arc-joint pliers to break it loose.

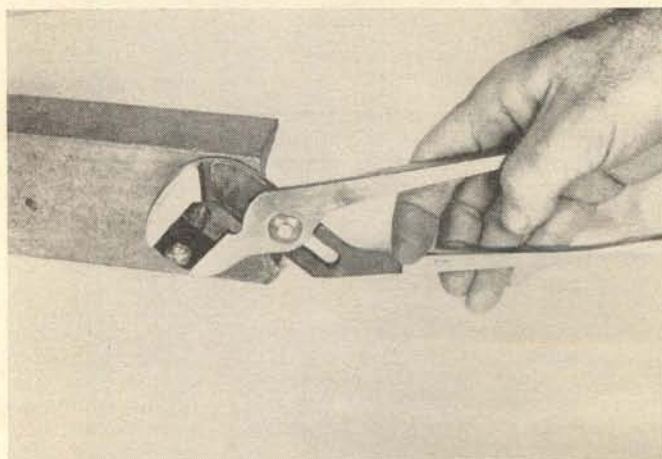


FIG. 3. Note how parallel jaws of arc-joint pliers fit firmly against edges of this square nut. Long handles give plenty of leverage for breaking a tight nut loose, or for tightening it on the bolt.

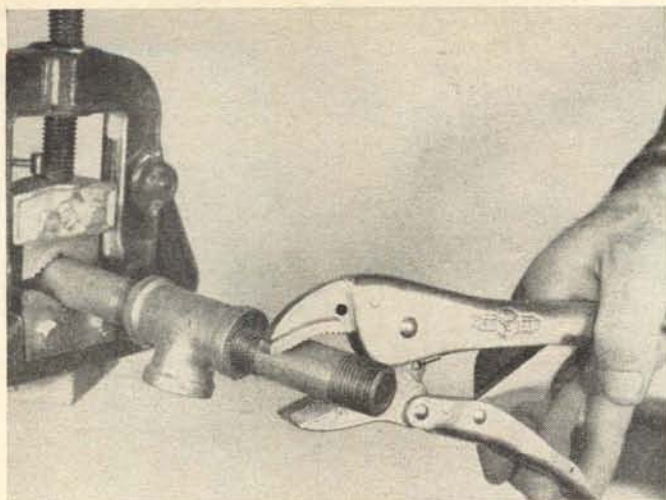


FIG. 4. Jaws of these clamp-type pliers are toothed and curved. They are ideal for fitting pipe of smaller diameter, as shown in this photograph. Curved jaws also clamp firmly on steel rounds and long bolts.

on the packing glands of water pumps on automobile engines. Although most modern automotive water pumps have sealed bearings that eliminate the need for packing glands, the pliers have proved so useful that they still are found in the toolbox of almost every automobile mechanic. They can be just as useful to the home craftsman as to the auto mechanic. One of the big advantages of this type of pliers is that the curving tracks of the joint permit the jaws to remain parallel, no matter to what size the jaw opening is adjusted. Both toothed and smooth jaws are available. The smooth-jawed type are ideal for such jobs as removing the chrome-plated collar from faucets when changing the washers. A strip of tape fitted on each jaw will assure a scratch-free grip on the chrome-plate surface.

Clamp-type pliers, Fig. 4, have become extremely

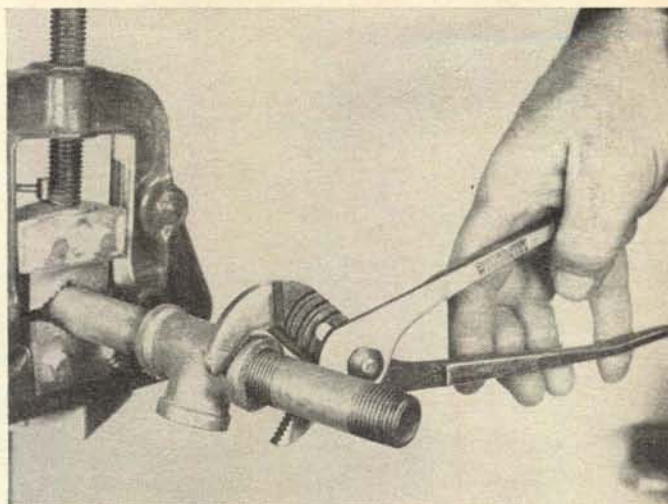


FIG. 5. Almost as handy for pipe fitting are arc-joint pliers with toothed jaws. Grip not as strong as clamp-type pliers, but pipe can be fitted well enough so that pipe wrench can be used for last few turns.

popular because of their versatility. No matter what your trade or hobby, there is a size or kind of clamp-type pliers that you can use. (Although the name Vise-Grip has become almost a generic term for clamp-type pliers, it actually is the registered trade mark of the Petersen Co.). Because of the compound-leverage action of clamp-type pliers the jaws exert a tremendous pressure. This is invaluable when you are clamping workpieces and want to keep them in accurate alignment while they are being drilled, cut or welded. Taking advantage of this pressure factor, accessories now are available for slipping over the jaws to permit the pliers to be used for punching holes in sheet metal, upsetting soft rivets and for fitting metal grommets in canvas. The type that uses these accessories has flat jaws. Other kinds of clamp-type pliers have curved jaws that are

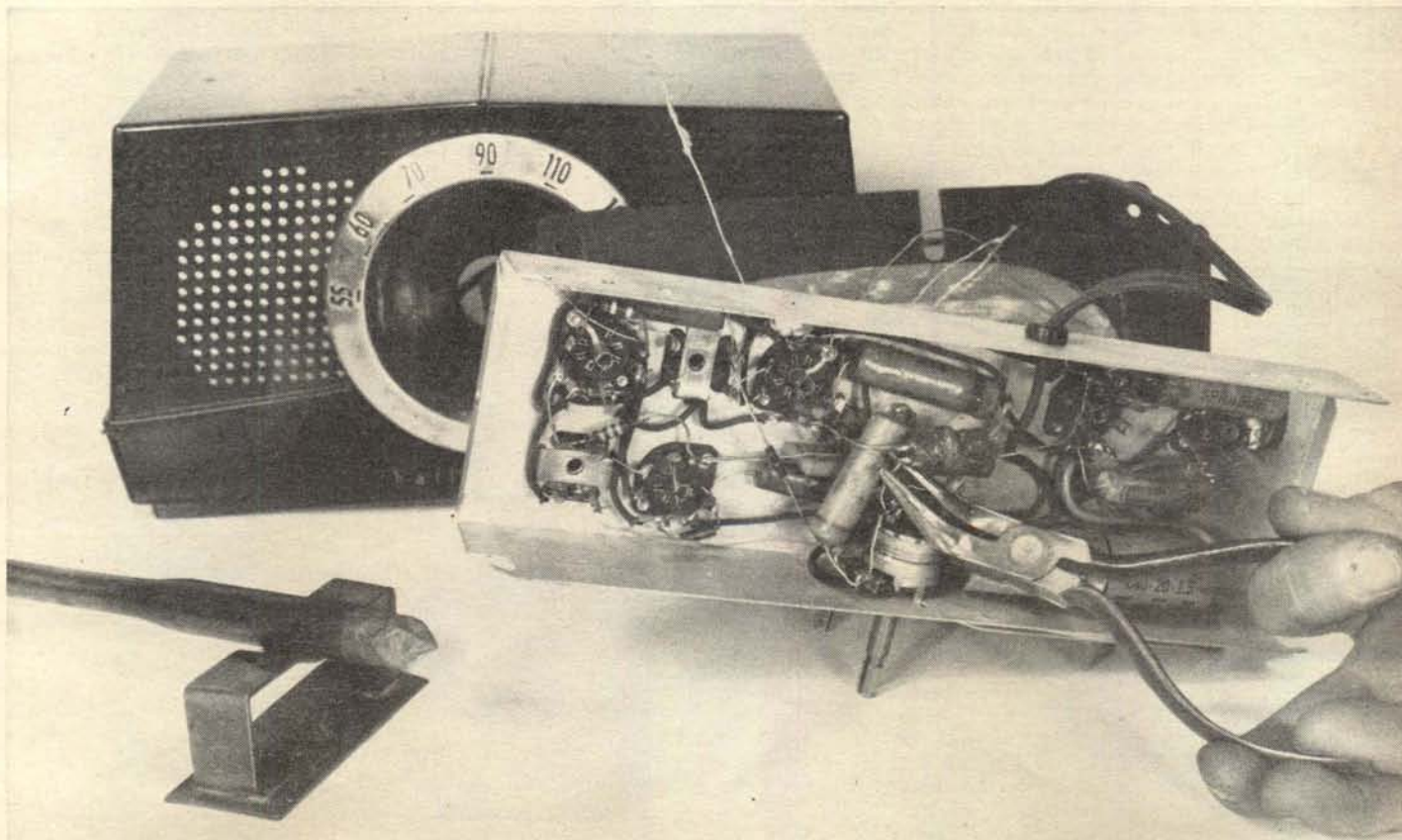


FIG. 6. Bent jaws of these needle-nose pliers make them ideal for reaching into maze of wires and miniature components on the underside of this radio chassis to hold parts while they are being soldered in place.

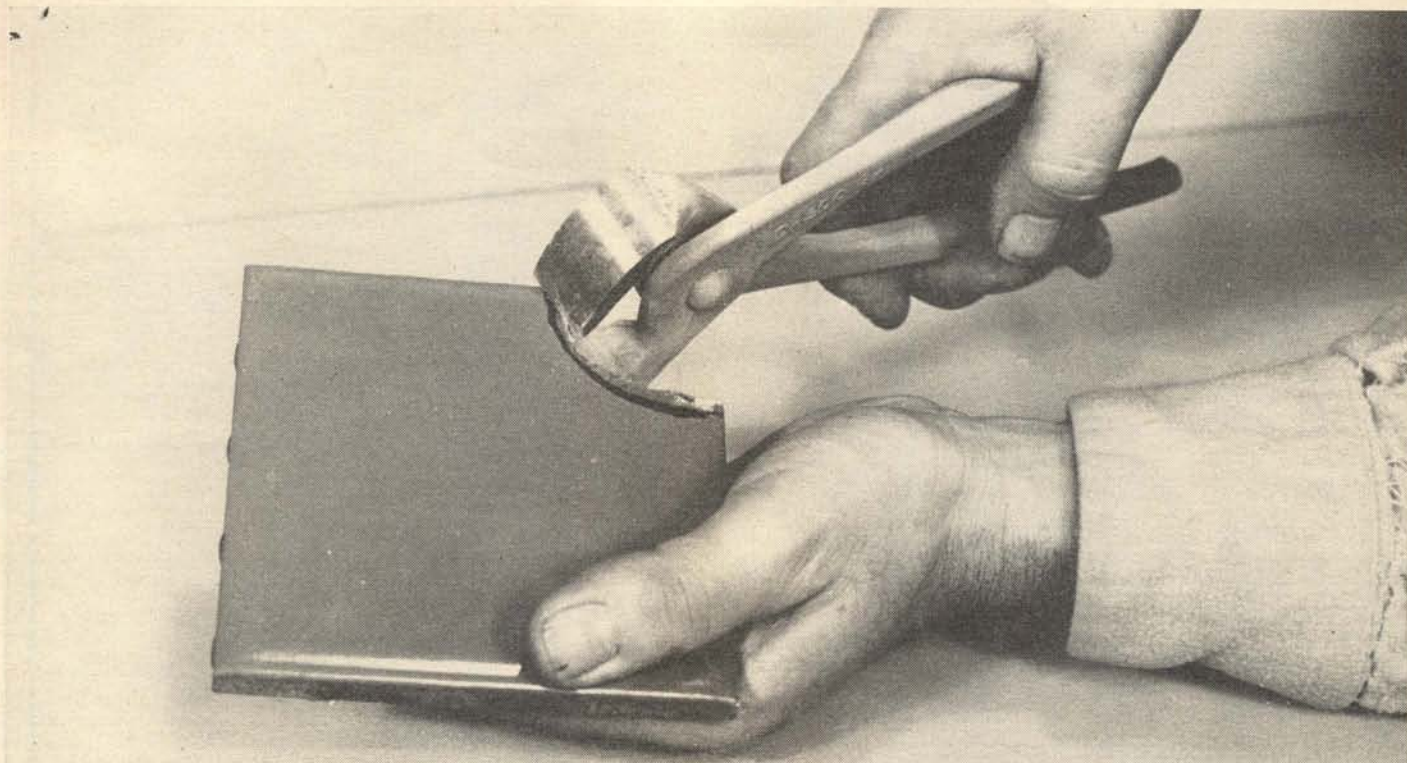


FIG. 7. End nippers are used here to "chew" ceramic tile to form a circular cut. Other end nippers can be used for pulling stubborn nails and for clipping off rivets that are too long for particular job.

ideal for pipe fitting and for holding objects that are cylindrical in shape or that have curved surfaces. Various sizes and shapes of pads and fixtures are used instead of jaws in the clamp-type pliers adapting them for use on sheet-metal work and auto-body repairs.

Diagonal-cutting pliers are another extremely useful type. Pulling cotter keys is a one-hand operation with "diags," the eye of the key being gripped in the cutter jaws and the key pulled without the need for straightening the bent legs. Cutting wire and stripping insulation are other jobs these pliers do well, and they should be in your toolbox if you do any wiring around the house. Long-nose, sometimes called "needlenosed," pliers, righthand tool, Fig. 8, also are handy when doing electrical work, as they can be used to turn "eyes" in the ends of wires that are to be attached to switches, receptacles and the like, with screws. The long-nose pliers also are ideal for handling small items, repairing costume jewelry and fine chains or for holding any fairly delicate work. Variations of the long-nose pliers are those with the jaws bent at various angles. They are used for specific jobs, such as radio assembly and repair, where the angle jaw, Fig. 6, is an advantage.

Side-cutting "lineman's" pliers with powerful, flat-nosed grip and strong cutting blades are excellent for cutting heavy wires and for stripping insulation. A special notched type makes stripping the insulation a simple job. Quite often these pliers will be fitted with insulation material on the handles to minimize the chance of getting an electrical shock when working on wiring. Such pliers with insulated handles should not be used as fuse pullers. While the user may not get a shock, the metal jaws can cause a dead short circuit and blow not only every fuse in the home fuse box, but possibly damage a pole transformer somewhere down the street that will plunge a whole neighborhood into darkness. Fuse pullers are made of hard rubber or plastic, and are completely insulated so they cannot injure the user, nor cause a short circuit.

Getting back to ordinary slip-joint gas pliers, there is a need for them on many jobs. The best bet is to have several pair, running from a small to a very large size. The large ones are ideal for holding objects to be

heated by a torch, for bending metal shapes and for turning large nuts up snug so that a wrench can be used for final tightening. Do not use these gas pliers incorrectly, as in Fig. 2. Attempting to loosen or tighten a stubborn nut will simply chew it up so that even a wrench cannot be fitted on it. A clamp-type pliers would be the answer here, if the nut were damaged to the point where a wrench could not be fitted. But that damaged nut would have to be replaced. Tightening the brass fittings used on copper tubing with gas pliers probably is the worst example of the misuse of this type. These soft brass fittings chew up quickly and the pliers gripping from only two sides of the fitting too often will distort it so that it will leak even when tightened to the last thread. Clamp-type pliers would crush the fitting, as would arc-joint pliers. There are jobs where a wrench would do a better job.

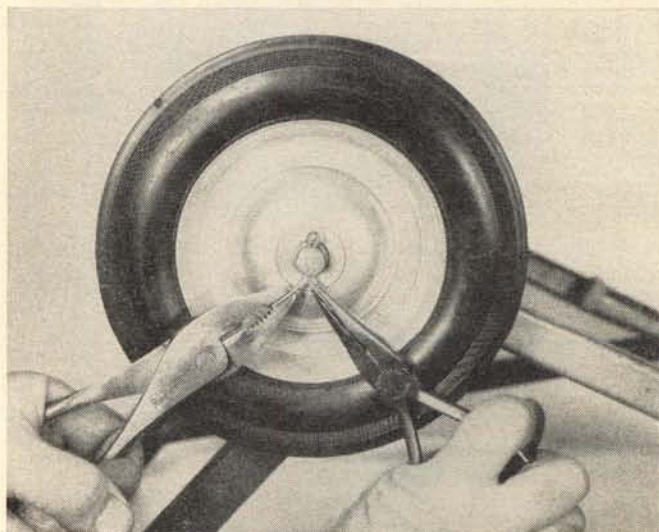


FIG. 8. While diagonal cutters are ideal for pulling cotter keys, long-nose on right, or slip-joint pliers on left, do a better job of spreading the legs of the key for locking it into place.

Shop Drawing Tools

PAUL COREY

EVERY HOME craftsman needs a few simple drawing tools to rough out the details of a proposed project. There is no need to buy the tools; a few scraps of tempered hardboard and a broken yardstick or length of thin wood stock are all the materials needed to make a pair of triangles and a T-square, Fig. 1.

As with standard drawing tools, one of the triangles is a 30-60, the other a 45. The triangles are cut on a table saw, setting the miter gauge at those angles. Size of the triangles is not critical, they can be any convenient size. The yardstick used for the original set was broken so the 10-in. mark could be used for zero, while one digit of the remaining numbers was painted out or replaced with a "1", so the scale read up to 18 in. Holes drilled in the triangles, Fig. 3, make them easier to handle and permit drawing circles of various sizes.



FIG. 1. Every home workshop should have a set of simple drawing tools to permit the craftsman to rough out the details of any project he is considering building.

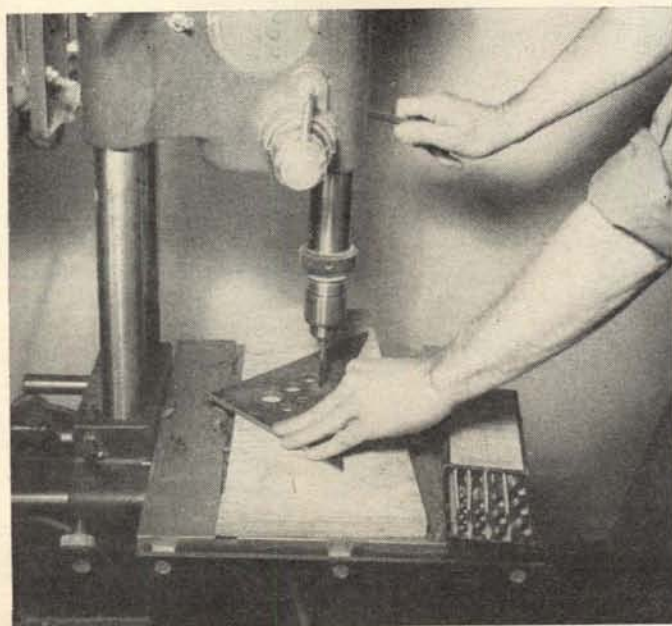
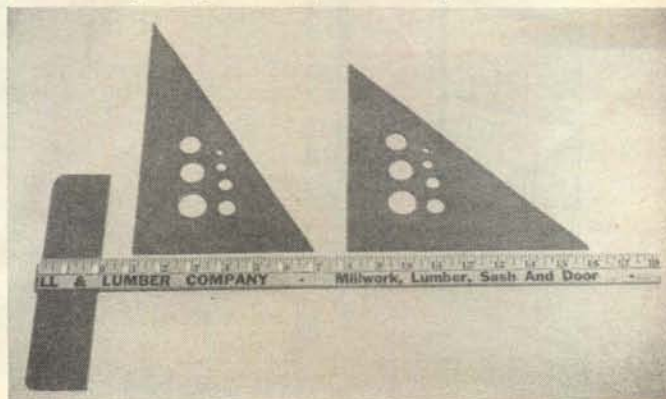


FIG. 2. Triangles are cut from scraps of tempered hardboard. Miter gauge on table saw is set at 45 and 30 or 60 deg. to cut them. Size of triangles is not critical.

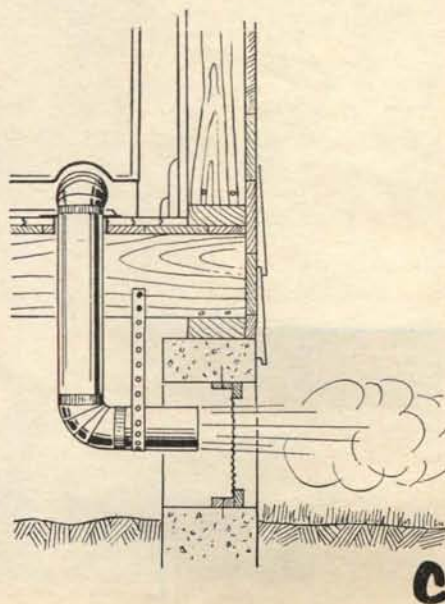
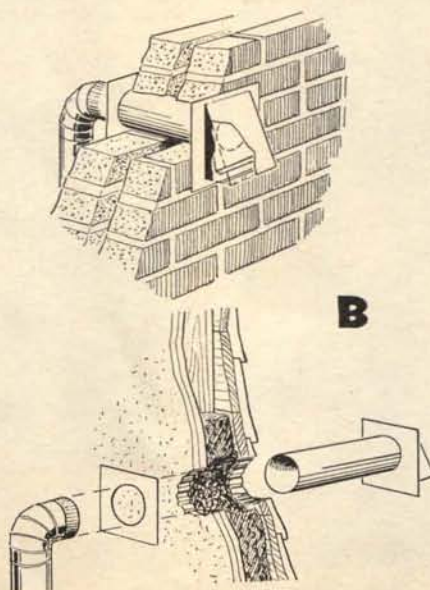
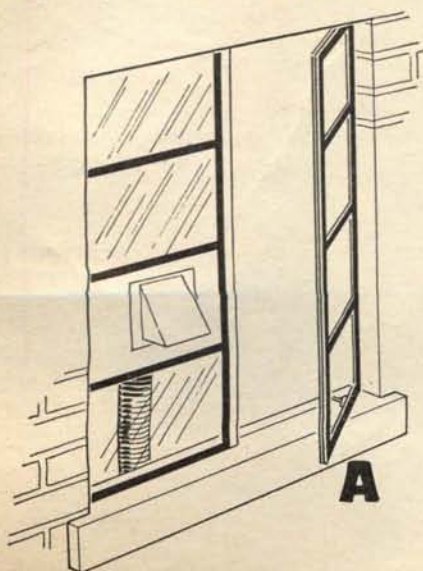
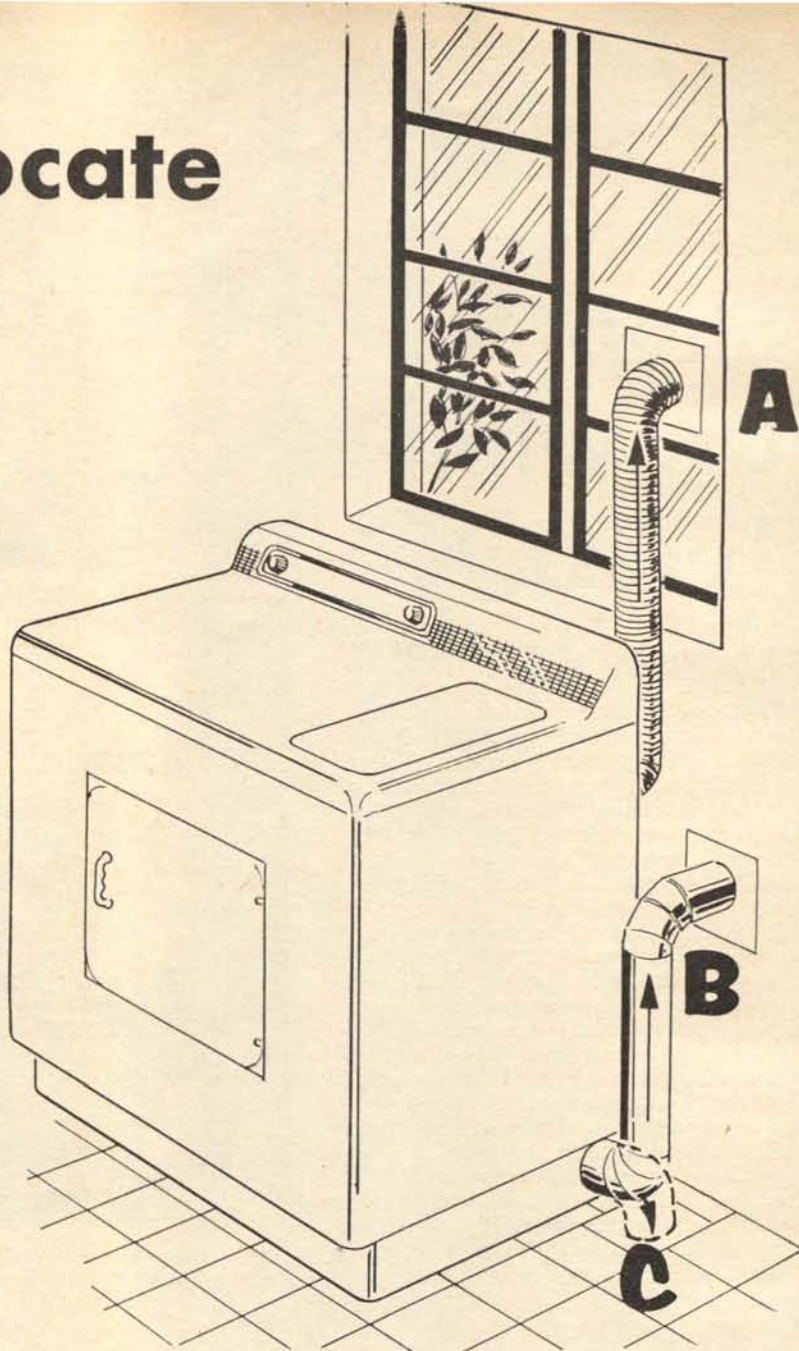
FIG. 3. Holes of various sizes drilled in triangles serve double purpose, make handling triangles easier, permit drawing circles of various sizes.

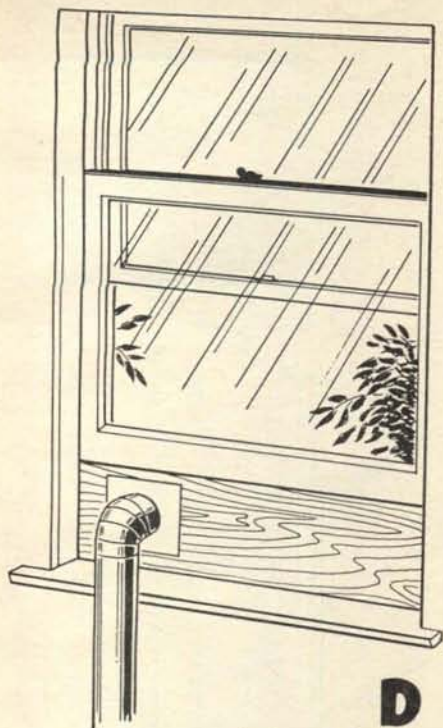


Where to Locate Dryer Vents

WARNER BENSON

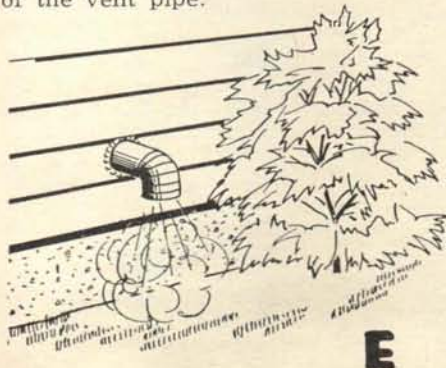
Have to locate your clothes dryer temporarily because of some remodeling? Moving to another house, and wondering where that tubing for the exhausting of hot, moist air from the clothes dryer should be routed? Perhaps you figure you might move the dryer at a future date and do not want to cut a hole through the outside wall that would require extensive repairing when the vent is removed. Here are a number of ideas that might be used, or which might suggest some ways for you to route the vent piping from the dryer in your home. However you route the dryer vent, keep in mind that the shorter it is, the better. Also avoid running the vent up too high. Moisture in the air will condense and run back down the vent, reducing the dryer efficiency and causing rust and corrosion to form rapidly at the lower end.



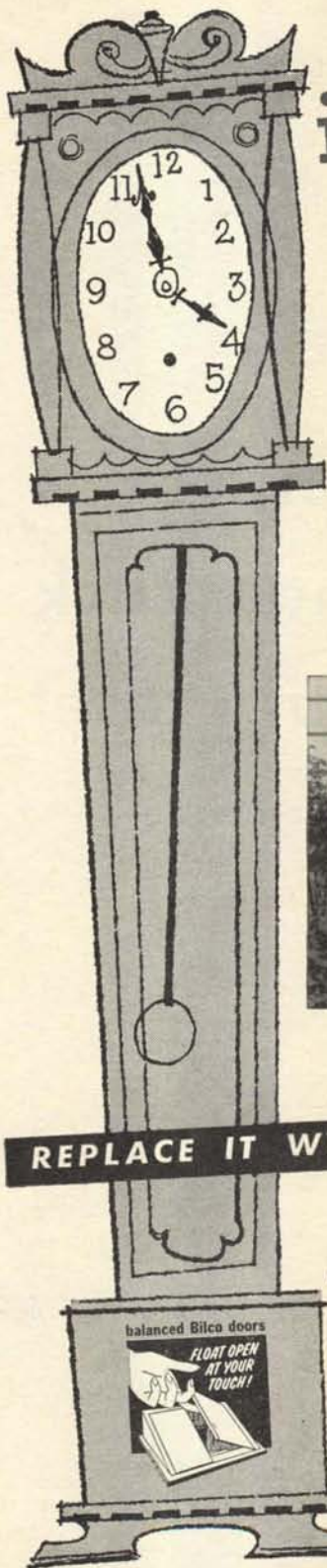


D

WHEN REMODELING is being done, and a clothes dryer is to be located temporarily, flexible tubing can be run to a window. One pane of glass is replaced with a piece of hardboard, plywood or sheet metal and a hole is cut in the material to accept the end of the tubing or an elbow, as indicated at A. The glass pane is easily replaced after the dryer is placed in a permanent location. If the dryer location is permanent, the vent can be run directly through the wall as at B, whether the outside wall is masonry or frame and siding. An alternate method, where a home has a crawl space, is to run the vent pipe down through the floor and use an elbow to direct the exhausted air through a foundation ventilator, as at C. Another method, when a vent is located temporarily, is to run it through a piece of hardboard, plywood or lumber wedged between the windowsill and sash of a double-hung sash as in D. Where a vent pipe runs directly from the dryer through the wall, an elbow should be fitted on the end to direct the air downward, away from shrubbery and plants, as in E. A self-closing wind flap, as used in A and B, is best for the end of the vent pipe.



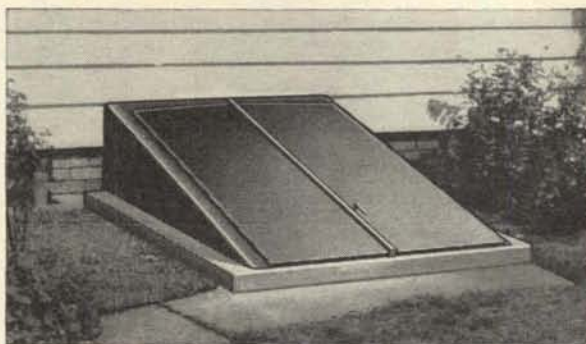
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Vertical Shoe Rack for Closet

DONALD CREPEAU



THE ANNOYING problem of stumbling over shoes that are stored on the floor of your closets can be eliminated once and for all by making this handy shoe rack shown in the illustration. The rack shown is only 10 inches wide, projecting 12 1/2 inches from the wall; however, the dimensions can be changed where necessary to match your needs and space available in the closet. The height of the lower shelf is 7 inches, to accommodate high heels or work shoes, with the other shelves being 4 inches for standard men's shoes and slippers. Again, these dimensions can be varied to best suit your needs, to conform to the style shoe most com-

monly worn by members of your household, and to provide storage space for shoe boxes.

The curved mounting bracket and shelves are made of 1/2-inch stock, or plywood, with three strips of lattice stock on each side holding the unit intact. The mounting bracket should be screwed to the wall just above the baseboard, while the top of the rack is simply nailed to the wall or fastened with steel angle irons. With this simple addition to your closets, you can store ten or more pairs of shoes in orderly fashion, and you know that the shine will not be marred by being scuffed by other shoes.

Master woodworkers exert care in choosing specific wood for specific purposes. Here's a guide to help you make wise choices.

What Wood's Good for What?

VOLLIE TRIPP

THE BEGINNING woodworker often turns out a nice piece of work, but uses the wrong kind of wood. He may spend hours turning slender legs for a library table, using ordinary pine, which is too soft and weak for this purpose. Or he may make an article of patio furniture, using wood which will not stand up well in the weather.

Having decided to make something, the next thing is to give thought to the kind of wood to use. Only by using the proper kind of wood can the best results be achieved.

The study of woods, and their peculiar properties is fascinating. There are thousands of different woods, many with truly extraordinary qualities, but here we shall confine ourselves to those types generally available, and their use about the home.

Wood varies greatly in hardness and strength, and slender pieces of furniture should be made of strong hardwood. Maple, birch, cherry, walnut, mahogany and beech are all excellent woods, close grained and very durable. They also take a high finish, which makes them very suitable for the more formal pieces, those worthy of an honored place in one's home.

Of course the softer, lighter woods—pine, spruce, redwood, etc., are also suitable for furniture, but of a different kind. Such pieces must be simple and rugged in design. The once favored Mission furniture was of this type. It is still suitable for a den, lodge or mountain cabin.

THE TERMS "open grained" and "close grained" as applied to wood, are sometimes confusing. Open grained woods have minute pores, or capillaries in the wood, and a distinct grain, separated by a soft filler. This is particularly noticeable in the pines and firs. These hard and soft areas make it difficult to give them a high finish, and generally make them unsuitable for the better pieces of furniture.

The woods mentioned first—maple, cherry, etc., are all close grained woods, of a uniform hardness and density, with no pores or voids. Oak is a hardwood, but has an open grain. Such woods have to be filled

before they will take a high finish, a process which takes considerable experience. Generally, we prefer the hard, close grained woods for anything in formal furniture, as well as turning. The harder the wood the better it will finish and polish on the end grain.

If you want to make something really handsome, a desk, a bed, a table, chair or dresser, pay a little more (not much) and get good seasoned close grained hardwood, something worthy of the time you put on the project. All the woods first mentioned are excellent for any kind of indoor furniture. Maple, both Eastern hard and Washington, is light in color, and finishes without stain or dye. Cherry is light, almost white, and must be dyed to bring out the "cherry" color. Black walnut and mahogany must be stained or dyed to get the rich brown and red tones.

ASH IS considered a hardwood, but like oak, has an open grain, with pores, or voids, which make it unsuitable for formal pieces, or for turning in small detail. But ash reveals much character, especially when sand-blasted, when the grain pattern is revealed in greater prominence.

Ash is wonderful for chests, ornamental wood boxes and the like. Of course it can be used for other furniture, as occasionals, when a decided departure from the glossy, high lustre pieces may be desirable.

For lining clothes chests and closets, nothing can equal the aromatic or incense cedar of Oregon. This wood is hard, pinkish to white in color, often in the same board. It tends to split easily, and should be bored for nails and screws.

The sweet lasting pungence of this cedar is said to keep away moths. Whether or not it does, the fragrance it imparts to clothes makes it greatly desirable for this purpose.

Spruce is a fairly light, tough wood, easily worked, and very suitable for utility pieces which are to be painted. Much unfinished furniture is of spruce. It is grainy, but does not have the hard grain and softer filler of pine. Spruce does not

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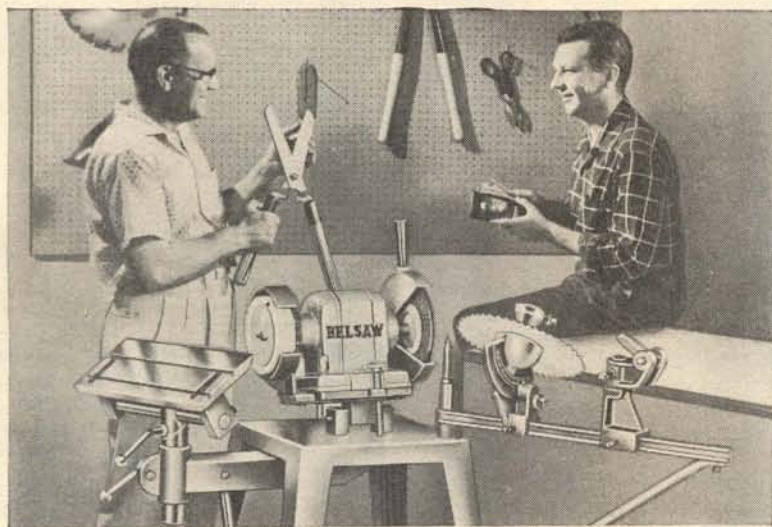
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warp badly, and takes nails and screws without splitting. It is an excellent utility wood where finish is not a consideration.

Hickory is a wonderful wood, perhaps our strongest, and without an equal, where great strength with extreme toughness, is needed. It makes wonderful tool handles, and this is its chief use.

Hickory is fine for bows, skis, ice sleds, anything, in fact, where strength, with resiliency is called for. Glued up in combination with mahogany, another resilient wood, it makes an effective as well as beautiful bow. The wood is of a creamy color, rather difficult to plane, as the grain runs in and out as interlocking fibres. Scraping and sanding are advised to achieve an attractive finish.

FOR PATIO and outdoor pieces, good seasoned redwood is about the most satisfactory wood. This wood is soft, easily worked, and what is more important, stands up well in sun and rain, even if untreated. But redwood is only about a third as strong as the hardwoods, so the furniture must be made massive and rugged.

It is well-suited for outdoor screens, windbreaks, walls, fence rails, gates, in fact, any place where resistance to the elements is a factor. Even more weather resistant is sugar pine, a light soft wood with a sweet pungent odor. But sugar pine is rather too scarce and expensive to be used for outdoor furniture anymore. It is chiefly used for sash and doors, honey frames, and the like.

While redwood is quite resistant to decay in the ground, and is often used for fence posts, they must be of good size, to have the necessary strength. Cedar lasts equally well, or better, and has greater strength. Cedar posts, either sawed or split, are advised, when long life in the ground is expected. Juniper, a relative of cedar growing wild in much of the Southwest, is perhaps our most durable wood, in or out of the ground. Juniper is not available in lumberyards, but those having access to it for posts are fortunate.

WHAT OF the veneers and plywoods? Many are on the market—ash, mahogany, birch, etc. The veneers are excellent for paneling or other indoor building purposes, where they are protected from weather, and not exposed to hard wear. In some of these veneers the finish layer is paper thin, glued to a core of light, soft wood. This makes them unsuitable for furniture, as a general rule.

Then, too, there is the problem of finishing, or hiding, the edges, with their end grain exposed. It is best to use these veneers for their intended use, as panels and wall coverings. Of course much good furniture is made of plywood, where the inner cores are of wood which will take a nice finish. For furniture, the finish ply should be at least 1/4-inch thick.

Ponderosa, or "knotty pine," is widely used for kitchen cabinets, ceilings, etc., either finished natural, or painted. The wood is suitable for interesting occasional pieces, where the knots may be an attraction. The wood is attractive for den or cabin furniture, if the design is simple and utilitarian. It can be lacquered or given a soft oil finish. Where the pine is to be finished natural, use wood where the knots are small, solid, and have not been shattered in planing. Ponderosa pine takes glue and nails readily, does not split or warp badly under normal conditions.

Our most common wood, Douglas fir (or "D. F.") is primarily a framing wood, quite strong, very grainy, tending to split and warp. The better grades are suitable for painted utility jobs. Douglas fir does not resist weather too well, even when painted, and should never be put into the ground unless pressure treated.

For boats, marine plywood has proved a worthy material, when painted. For planking, and all boat trim, mahogany is perhaps our best wood, now that teak is practically unobtainable for boat construction.

Mahogany is extremely strong, even across grain, very resilient, and takes a beautiful finish. Of course there are many kinds of mahogany. Most of our supply comes from Central America. The so-called Philippine mahogany is usually red lauan an excellent wood, but not the equal of true mahogany.

COMBINATIONS of various woods can often be used with fine effects, especially when glued up in blocks and turned into bowls. But best results will be obtained when woods of a more or less uniform hardness and density are used. Almost any color combination can be found in the hardwood group, from near white to deep red, brown, or even black. Nearly all of the softwoods are a light tan or cream in their natural state when dry.

Wood is perhaps our most versatile material, ranging from balsa, lighter and softer than cork, to lignum vitae, so hard and heavy it sinks like a rock, and must be worked with metalworking tools. The master craftsman thinks in terms of a particular kind of wood for a specific purpose. Good hardwood costs a little more than ordinary softwood, but not much more, when you consider the time invested in a project. Once the worker gets "wood conscious" the quality of his product improves greatly.

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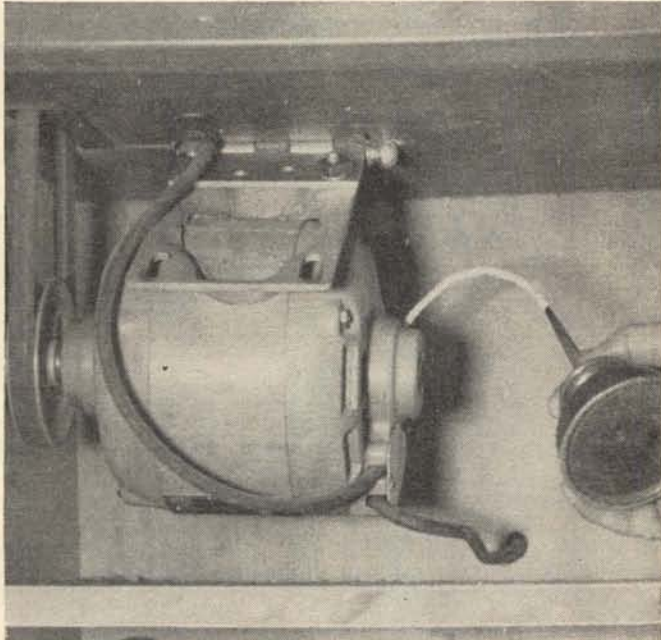
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Pipe Cleaners do more than Clean Pipes

HARRISON NEUSTADT

A NICKEL or a dime package of pipe cleaners will pay big dividends in usefulness around your workshop. You

will undoubtedly find many other uses for them besides those suggested here.



WHEN THE OIL CUPS of a motor are out of reach, a pipe cleaner in the spout of the oilcan will get in there. Oil will follow cleaner as though it were a wick, going around corners where that might be necessary.



FOR A disposable glue brush, insert a half dozen short lengths of pipe cleaner in a drilled dowel or package handle.



A PIPE CLEANER dipped in solvent will quickly clean out the tube of a spray gun should fast-drying paint cause it to become clogged.



TO CLEAN THE THREADS on the spindle of a wood or metal lathe, use a pipe cleaner, holding it in the threads while the lathe is run at its slowest speed. Cleaner will follow threads as spindle is rotated.

Patching Linoleum Counter Tops

LILLIAN S. GRAHAM
and
MARJORIE WACKERBARTH

HAS THE linoleum surface on your kitchen counter worn out in spots? If so, a beautiful new covering is wonderful to have but if your budget is limited, don't despair. You can repair the old linoleum at very little cost and add years of wear to the present counter surface.

Frequently the entire counter is in perfect condition except on the back side of the sink nearest the faucets. This surface is so frequently soaked with water that it gives out long before the rest.

To patch your counter top you will need some matching linoleum, a linoleum knife or razor, and some water-proof paste.

If you have some linoleum left that matches your counter, you are in luck. If you don't have any, chances are you can buy for a very few cents two or three six-by-six-inch square linoleum floor tiles to match your counter top.

With a linoleum knife cut away the worn spot of linoleum. You can cut it out with a razor, but it is harder to cut a straight line with a razor. It's also harder to hold a small object. A linoleum knife can be purchased for about 85 cents at most hardware stores.

Cut a piece of linoleum the exact size of the worn place. To cut linoleum, score the surface with the linoleum knife, then the piece will break along the cut.

Clean all loose dirt from the surface of the spot, and especially in the groove of the metal trim, if your patch is to fit into it. If your patch is a bit too thick to fit into the metal trim, thin it a little by scraping the back side of the patch.

Brush on a thin coating of linoleum paste both onto the surface of the counter and onto the back of the linoleum patch. Let season about ten minutes, then fit the patch into the hole, pounding the edges down until it lies even with the old surface. Let dry for twenty-four hours.

To cover the seams in the linoleum, scrape some of the top surface of a spare piece of linoleum into a dish. Mix with some household glue until it is the consistency of paste. Rub this mixture into the seams of your patch and smooth off with a knife.

It will take close scrutiny to see the patch, and your counter will be good for years more of service.

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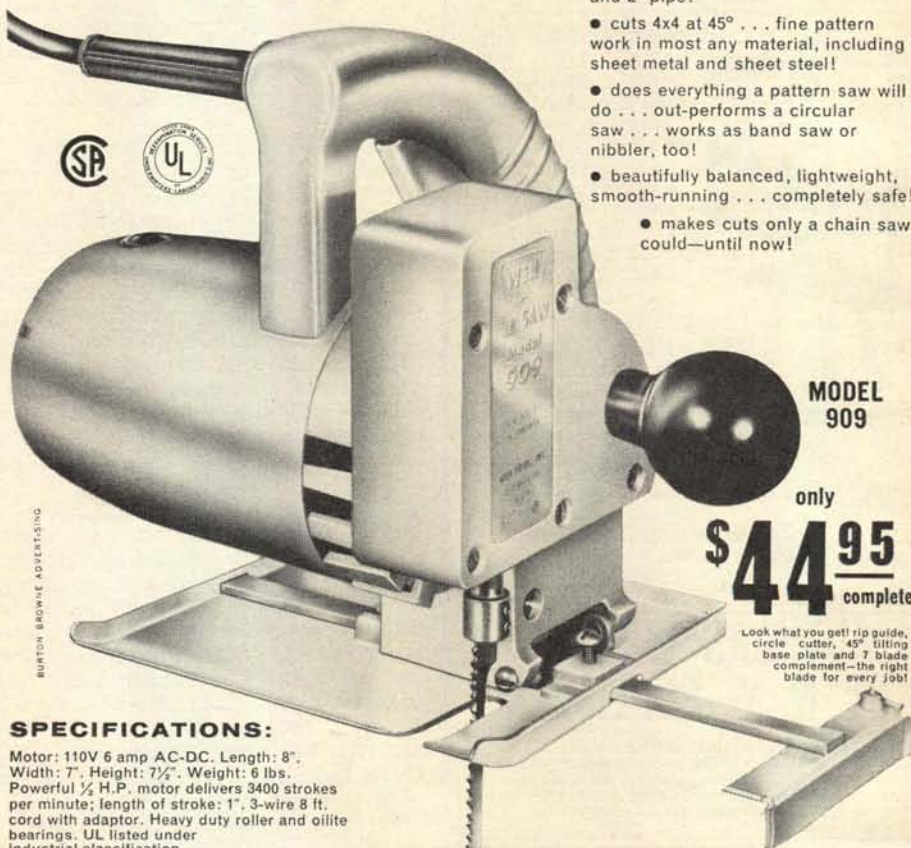
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The actual physical operation of a blowtorch is relatively simple, but it must be understood before proper maintenance can be accomplished.

Gasoline from the tank of the torch is forced to the burner through the feed pipe and generating vein or fuel passage by compressed air inside the tank, that pressure being provided by occasional use of the small hand pump installed as part of the tank unit. As the gasoline passes through the generating vein it is vaporized by heat conducted from the combustion chamber as the torch is burning.

As you know, before attempting to ignite a cold torch, the burner casting must be preheated by burning gasoline in the priming cup. The vapors generated in the vein emerge from the gas orifice and mix with incoming primary air. This mixture then passes into the combustion chamber where it ignites and burns, giving off a long blue flame at the mouth of the burner. Secondary air mixes into the flame through the heater holes in the combustion chamber to complete burning of the gas vapors.

The normal flame from a blowtorch is a hot, blue flame, averaging about 1,800 degrees Fahrenheit at the end of the flame, and around 2,200 degrees Fahrenheit near the mouth of the burner. If the flame appears too small and weak, open and close the gas control valve several times to clear the burner orifices. If this operation does not correct the improper flame, your blowtorch is telling you that it is in need of a cleaning.

First, unscrew the pump and remove and clean the check valve. Oil should be drawn into the pump cylinder, to lubricate the leather washer on the pump piston. Clean the tank of any sediment by rinsing it thoroughly with clean gasoline. Next, loosen the packing nut and unscrew the control valve. Hold the nozzle with a strong light in the background and look through the fuel passage; if the orifice is overly enlarged, it should be replaced with a new one. Remove the clean-out plugs, and by using a short piece of pipe inserted into the nozzle, unscrew the burner assembly from the tank. With the

burner removed, unscrew the wick and scrape the charred end clean with a pocketknife, or clip it with a pair of shears. The veins, or fuel passages, can be easily cleaned by turning a drill by hand in the small openings. Scrapings and debris should be blown out before assembling.

You will probably have difficulty in getting the wick back into position. Twist it tightly and insert it through the feed pipe inlet with a screwdriver or other similar tool.

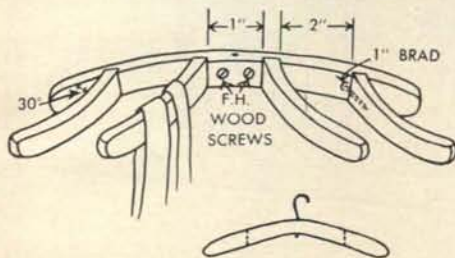
AFTER THE torch is assembled, fill it three-quarters full of clean, uncolored and unleaded gasoline. Check to be sure that the gasoline control valve is closed, then pump about 20 strokes of air into the tank for proper starting pressure. You can test the torch without lighting it, by merely pointing the nozzle into a container and opening the control valve. If a small stream of gasoline sprays out, it is properly assembled and will burn efficiently when properly generated.

In starting a torch, open the control valve slightly, allowing gasoline to flow slowly into the priming cup until it is about three-quarters full. Ignite the gasoline in the priming cup, which will heat the burner casting to the generating temperature. When the gasoline in the cup has nearly burned out, open the control valve. The small flame from the primer cup will often ignite the torch; if it does not, hold a match either to the heater holes, or just below the nozzle. A blue flame indicates you have done a good job; a yellow flame means that the torch has not been properly generated. When a yellow flame results, shut off the torch and allow it to cool slightly, then fill and relight the priming cup. Increased flame volume may be obtained by regulating the control valve and increasing the air pressure in the tank.

When you have finished using your torch, always allow a sufficient time for it to cool before storing it away. Wipe off all stains and splatter marks it may have acquired during the job, and be sure and back out the control valve about one-quarter turn, which will prevent it from jamming as it cools, making it ready for instant use when next it is needed. With proper care and treatment a good blowtorch should give the average craftsman at least ten years good and faithful service. The few minutes it takes to keep your torch clean will more than pay for itself in increased efficiency.

Tie Rack Made from Coat Hangers

Frank Shore



WHEN THIS tie rack is finished with enamel to suit your fancy, it will make an attractive accessory. The arms, set at an angle of 30 deg., will easily hold two dozen ties. As the arms curve upward, the ties will not slip off, though the arms are in a horizontal position.

First cut the ends of an arched, or curved, coat hanger so that its length is 8½-in., and remove the wire hook. Fill the holes with wood filler. Then the arms, also cut from an arched coat hanger are set in grooves cut at an angle of 30 deg. and ½-in. deep. The grooves are 1-in. apart at the center and 2-in. apart at the sides. Glue and brads are used to fasten the arms in place. Holes are drilled near the center of the rack to accommodate wood screws which are countersunk.

Enamel paint is applied after the rack is sanded so that its surface is smooth and its edges are rounded. A novel effect can be obtained by painting the rack in two contrasting colors, so that the arms and back are distinctly separate.



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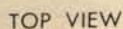
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FINDING THAT particular tape to play for a friend will take much less time and effort when you have this handy "file cabinet" that stores 3 to 7-in. tapes so conveniently that it takes only a glance to tell which tape contains what material. Labels on the vertically-positioned tape boxes permit this quick selection. The bottom shelf of the cabinet slants down to the back, so that unboxed tapes will not roll out. For tapes not yet used, there is a shelf above the lefthand storage compartment.

stock (approx. $\frac{3}{4}$ in. finished) or $\frac{1}{2}$ -in. plywood will provide adequate strength. Note that the center vertical partition is cut as indicated along the dotted line so that its lower edge fits against the top surface of the bottom shelf. Nails driven through the bottom shelf into the partition add rigidity to the cabinet. Triangular glue blocks fitted between the lower surface of the bottom shelf and the insides of the end members assure adequate strength at these points. Two pieces are used for the cabinet back, the one behind the left-hand compartment, "A" in the top view, is only $5\frac{1}{2}$ in. from the front

to accept the smaller tapes. Semi-circular notches cut in each vertical partition permit removing the end tape when the cabinet is full, so that any tape then can be pulled free. If plywood is used, veneer tape should be used on the exposed edges to give the cabinet a more finished appearance. The latter is especially true if the cabinet is to be left natural and varnished. When the cabinet is to be painted this is not so critical. After this cabinet is filled, it is a simple matter to build another just like it, and "stack" the units as you would any file cabinets. The lowest unit should be fitted with short legs.



Repairing Furniture with Water Putty

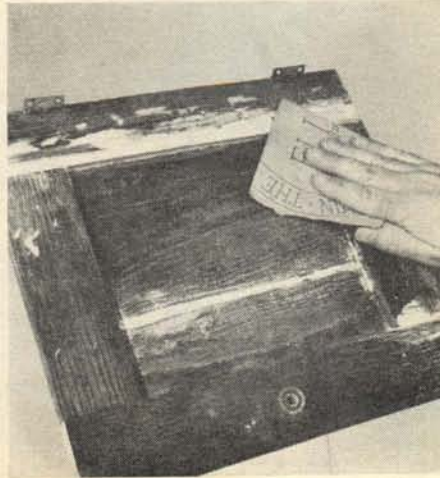
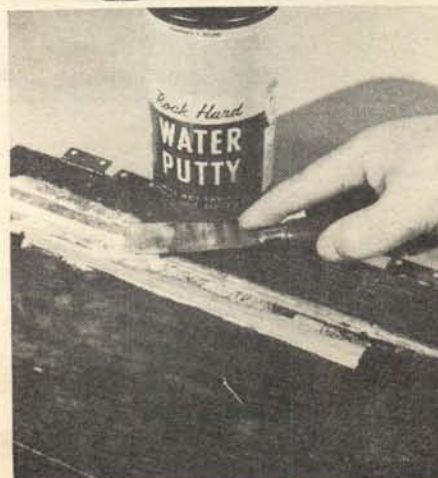
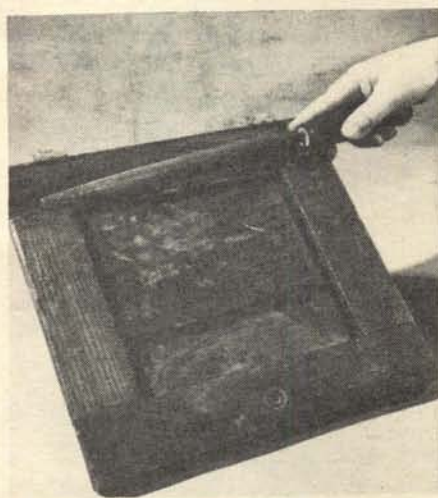
KEN MURRAY

A PIECE of furniture of ancient vintage or removed from long storage, may be dried out, falling apart and have bits and pieces missing. But, do not consider it hopeless. It can often be restored with the aid of water putty. This hinged door from an old cabinet is an example. It had gone to pieces. After regluing the loosened parts and squaring, the

space left by a large missing splinter of wood was cleaned and roughened with a coarse rasp. Coarse sandpaper could have been used for the same purpose.

A wooden strip covered on two sides with aluminum foil (for easy parting) was wedged between the sides of the frame to serve as a dam or retaining wall. Then the space was packed with water putty, made immediately before use by adding water to the dry powder. The powder usually consists of wood flour, plaster and an adhesive. It sets in about 30 minutes and sticks to most surfaces, particularly wood. As it does not shrink, it can be leveled off with the putty knife.

An advantage of water putty is that dry colors may be added so it will exactly match the shade of the wood being restored. This is not necessary, of course, when the job is to be painted. After the putty has dried for about an hour, smooth it with sandpaper or steel wool. It can be cut with a knife, chiseled, sawed, filed or molded; so, with scarcely any practice, you can restore a piece, even making new parts that are difficult to tell from the originals.



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Mr. Benson Barrett was one of those people. By using a method known to only a few people, he enjoyed a steady income and made enough money in spare time to pay for a fine farm near Chicago, Illinois. Finally, he decided to share his secret with others. Since then, he has shown a number of men and women how to write for money—without tedious lessons or study or practice. And many of these people started mailing contributions to magazines less than two weeks after starting with Mr. Barrett's plan! He simply showed them what to write, what form to put it in, who to send it to.

Mr. Barrett's plan also shows you a simple method for getting ideas by the hundreds, and a list of more than 200 magazines which will buy short paragraphs from beginners. In short, he shows you a method, an angle—a plan for starting to write right away for money.

If you would like to write 20 or 30 short paragraphs a week and get back a lot of small checks in the mail, send a card today for full particulars, Free. No salesman will call on you. Write: Mr. Benson Barrett, 7464 N. Clark St., Dept. 9-J, Chicago 26, Ill.

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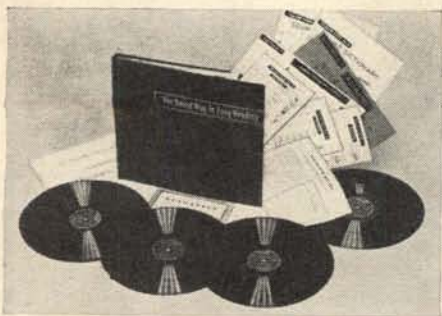
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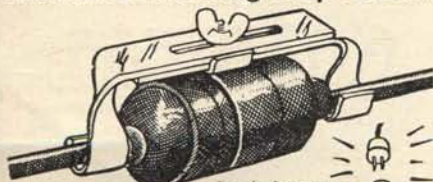


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Chairside Bar for Television Watchers

BIL TOMAN

A COCKTAIL table can easily be converted into a practical and comfortable bar between two chairs. With a supplementary table top of this type, refreshments can be mixed and poured all evening without missing any part of a television show—including the commercials. Nothing is restricted to coasters and no harm is done should anything fizz or foam over. At the end of the evening the top is removed to a closet and the formal appearance of the table is again restored.

The base is a piece of $\frac{1}{8}$ " hardboard cut to fit the top of the table to be used. A $\frac{1}{4}$ " strip of the same material is mitered and glued around the top to form a rim which is then sanded and enameled. Cut a piece of linoleum to fit the top snug against the rim on all sides and cement it on. Remove the top from an 8½-ounce vegetable can (green peas in this case) and enamel it inside and out. This is fastened to the top at one end with a small bolt whose nut is countersunk flush with the bottom surface. Cut a disk from a piece of cork tile or linoleum to fit the inside of the can and place it on the bottom. This will hold your opened soft drink bottle or mix and keep it from being accidentally upset.

The wire coils serve the same purpose for the glasses. They are each made from aluminum clothesline wire by winding a 52" length around a 2½" pipe. This will give you an inside diameter of about 2⅝" and the spirals are spread to an over-all height of 2½". Drill a $\frac{1}{8}$ " hole for the coils near each of the two corners at the end opposite from the bottle holder. Each hole is located 2¾" from each edge making a diagonal measurement of 3⅞" from each corner. They are slightly countersunk on the bottom surface. Right-angle bends on the ends of the coils are inserted in these holes, the wire cut flush with the underside of the board, then cemented in place with a plastic steel cement. Now either sand the underside smooth or glue a few strips cut from an old felt hat to the bottom.

The tray on the lower part of the particular table shown in the photograph holds the ice bucket and unopened bottles. The grip slot in the end serves as a towel bar.

The show sponsors will love you for this. What price comfort!



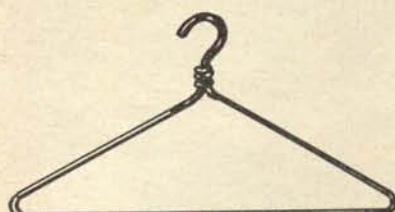
TABLE TOP being put into position with bottle and glass holders in place.

Letter Holder from Wire Coat Hanger

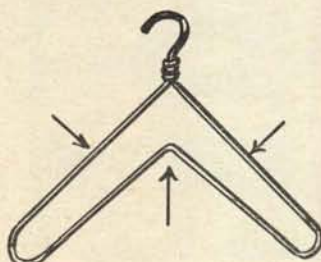
THOMAS P. RAMIREZ

A VERY handy letter holder or card holder can be made in a matter of seconds from a coat hanger. By following the instructions in the diagrams shown below, which describe step-by-step how a hanger must be bent, you can do the job easily. The letter holders are quite handy, and

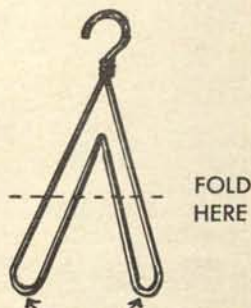
because a supply of hangers is always available, you can have several. In the den or at your desk they hold letters; in the kitchen, note cards, value coupons, etc.; in the workshop, sandpaper sheets, plans and the like. They are adaptable for every room in the house.



(1) PRESSURE APPLIED HERE



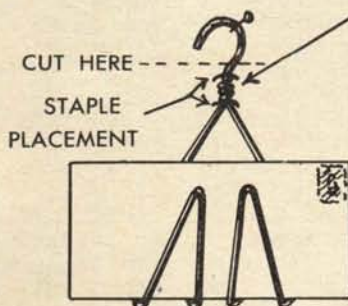
(2) PRESS HANGER IN AT SIDES



(3) HOLD ENDS TOGETHER
AND FOLD AT HALFWAY
MARK



HANGER BENT INTO
CORRECT SHAPE



SKETCH SHOWING HANGER HOOK BENT BACK TO
PROVIDE STANDING REST FOR DESK TYPE LETTER
HOLDER

CROOK OF CLOTHES
HANGER MAY BE CUT
OFF AND STAPLES
USED TO AFFIX AND
STEADY REMAINING
STANDARD TO WALL
OR:

CROOK MAY BE LEFT
INTACT AND HUNG
OVER NAIL OR SCREW
DRIVEN IN WALL

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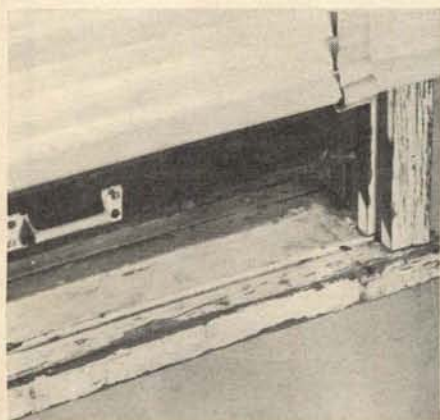
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Spackling Paste Helps on many Repair Jobs

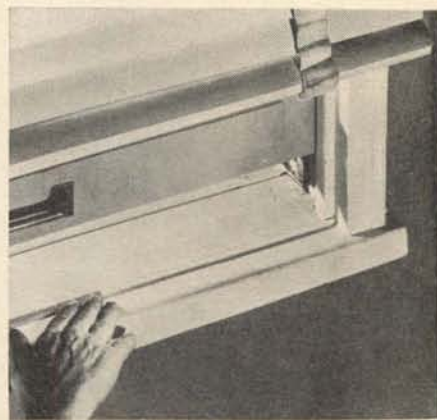
TED MORGAN



THIS OLD WINDOW appears pretty hopeless—paint weathered and chipped, wood cracked and marred. Refurbishing looks like a laborious, time-consuming job and a discouraging one at that.



SPACKLING PASTE makes easy work of discouraging refinishing problems. After a rough sanding to remove flaking paint, ready-to-use spackle is smoothed on to fill holes and chipped areas or, if necessary, to provide an entirely new surface.



THE SPACKLING PASTE dries bone-hard, doesn't crack or chip. A light sanding for smoothness, some paint, and the battered old window looks like new.

KNOWING THE right materials to use for specific repair jobs around the house is an important factor in achieving satisfactory results.

The use of spackling paste is a good example. You may never have used it because of the mess and bother of mixing a new batch every time you had some little repair or repaint job to do. Yet spackling paste is one of the most versatile and effective weapons in the home-repairman's armory. One manufacturer (the Reardon Company) has put a ready-mixed spackling paste (called Resurfo) on the market. It's as easy to use as popping off the lid of the convenient-size can.

What's it good for? Nearly every kind of interior or exterior repair job. Spackling paste is a general-purpose resurfacing, patching and filling compound for almost any type of building surface — plaster, wood, wallboard, masonry, tile, cloth, even metal and glass. Repair the surface with spackling paste before you paint—and when the paint dries, the result

is a professional-looking job of home maintenance.

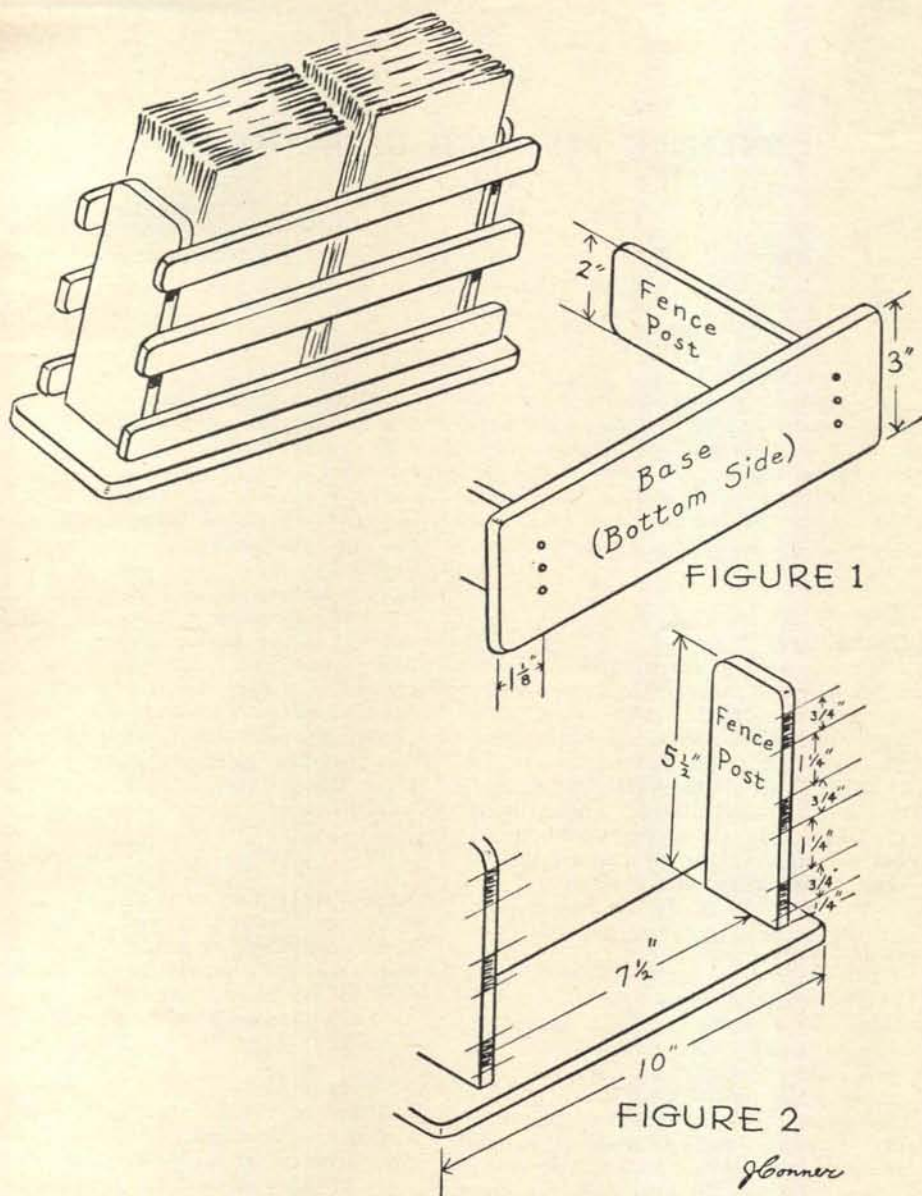
Take that weathered window sill you've been meaning to get to. A while ago someone (not you, of course) left the window open during a rainstorm. Water soaked into the sill, and now the grain is raised, the wood is cracked and the paint is flaking off. It needs refinishing—but don't just slap on a coat or two of paint; that won't restore the brand-new look. First remove the loose paint and the worst of the raised grain by rough-sanding. Next smooth on spackling paste with a putty knife or similar tool to fill the cracks and indentions. In an hour or so, when the paste has dried, sand the sill mirror-smooth with 00 sandpaper. Now go ahead and paint. The result: a professional refinishing job that looks as good as new, or even better.

Or take that old outside door—the one with all the ugly surface cracks. If you just repaint it, that's what it will look like—an old, cracked door, repainted. First fill in those cracks

with spackle to restore the original smooth surface. Then when the paint has dried, the old door looks like new again with an unblemished surface.

Or take those unsightly cracks, breaks, dents or nail holes in the bedroom walls. Whether it's dry-wall or lath-and-plaster, fill them in with spackle and retouch with matching paint for a room you can be proud of again.

Repairing or resetting ceramic, plastic or metal tile, bathroom fixtures . . . patching brick, stucco or other masonry, inside or out . . . filling canvas wall covering—spackling paste is the ideal all-purpose material for these and many other building repair jobs. Spackling paste is available in powder form, too, but the ready-mixed is available for instant use—dries bone-hard, shock-proof, with tremendous adhesive power—can be sanded or shaped with wood chisel, knife blade, etc. It keeps indefinitely in an airtight can. It's permanent too—you won't have to do the job over.



Old Corral Napkin Rack

CAROL CONNER

Drawings by John Conner

HERE'S A saw-and-hammer job that turns out a touch of the old west to corral your family's napkins.

You need plywood $\frac{1}{4}$ " thick to build this napkin rack. From it cut a base 3" x 10". Then cut two fence posts 2" x 5 $\frac{1}{2}$ ". These form the two ends of the old corral napkin rack. Next, to hold the napkins in, cut six fence rails, each $\frac{3}{4}$ " x 9". Sand the pieces smooth, rounding all the corners except the bottom corners of the fence posts. Those are to fit against the base, so must be left square to fit flush.

Mark the places for finishing nails

on the base, 1 $\frac{1}{8}$ " from the edge, as shown in Figure 1. Hammer in all the nails until they just project through the base. Then set each fence post in its right place against the base, and drive the nails in the rest of the way. Then nail three rails to the back and three to the front of each fence post, spacing them regularly, as shown in Figure 2.

Finish the rack with a stain varnish and cement felt on the underside of the base to protect the table top.

Two rows of paper napkins folded double will just fit in this rack.



SET-A-TILE MOSAIC TILE TABLES

It's easy to make this beautiful mosaic tile table. COMPLETE TABLE KIT — Includes 20" diameter Flake Bond Top — Three legs with brass plated ferrules (leg plates already attached in place) — more than enough Italian Glass Tile — Tile Cutters — Glue — Grout and Complete Instructions. Each table kit has a combination of four or five shades of the particular color. Colors: Turquoise • Blue • Brown • Green • Mauve. This set makes a beautiful gift. Only \$12.95 postpaid.

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WORKBENCH RESEARCH DEPARTMENT

Each issue in this column we will choose questions on home and shop subjects from letters sent to us. Only those questions which have wide appeal will be answered here. Questions on specialized subjects will be answered by individual letter.

Research Editor

The crawl space under my house has an earth floor and the space seems very humid. Insulation is stapled between the floor joists and I notice that it appears to be damp in several places. This is true especially under the bath tub that extends down almost flush with the bottoms of the joists. What is causing the damage, and how can I correct it?—Mr. R. L., Pittsburgh, Pa.

Dear Mr. R. L.:

From your description we are quite sure that your problem is excessive moisture. Water vapor is coming through the earth to cause a saturation of the air in the crawl space. The reason for the damaged insulation under the bath tub most likely is due to a tub of cool water acting like a cold glass of water on a warm day when "sweat" forms on the glass. The tub acts in much the same way when cool water is in it, and the warm, very moist air contacts it.

Your first step in solving the problem would be to clear any debris from the earth floor of the crawl space and level it, if possible. Next, about 6 in. of coarse gravel should be poured over the earth and raked level. It may be necessary to remove some of the screened and louvered vents in the foundation to permit pouring in the gravel. Usually strips of tar paper next are placed over the gravel, with the edges overlapped several inches to assure a vapor-tight seal. Latest practice is to use sheets of heavy plastic, made especially for this purpose. The sheets are quite large and permit having fewer seams for a given area. One advantage of the clear plastic is that you can see water vapor condensing on the underside which gives a fairly accurate indication of how much vapor is escaping from the earth.

Adequate ventilation is important also for eliminating water vapor, so be sure that none of the foundation vents are blocked by washed-in soil or screened by shrubbery or plants.

As a double precaution, tar paper or sheet plastic can be stapled to the bottoms of the floor joists to keep moisture away from the wooden joists and paper cover of the insulation. This latter usually is not necessary if the earth is covered with gravel and a vapor barrier.

Dear Research Editor

Was in a large hardware store the other day and noticed that there were a variety of nails. Some had what appeared to be a coating, others had grooves and some had barbs on the shanks. Why all the different kinds? Are there really places where these special kinds of nails would do a better job than the common type we home craftsmen are used to?

Mr. T. L., Baton Rouge, La.

Dear Mr. T. L.:

Yes, there are many kinds of jobs where the special types of nails not only would do a better job, but absolutely should be used. An example are the nails used in plasterboard. Smooth, uncoated nails would work loose quickly and would have little holding power in the plaster. Special coated, rough-shanked nails are used for this job.

We will have an article in the near future, illustrating the various types of nails and other fasteners and how and where they should be used.

Dear Research Editor

Is it possible to "double-glaze" a window so that it would not be necessary to use storm windows? By double-glazing I mean installing a second sheet of glass outside the original sheet.

Mr. R. R., St. Paul, Minn.

Dear Mr. R. R.:

Double glazing has been done, and it will eliminate the need for storm windows by providing a dead-air space between the panes. However, there are distinct disadvantages to this type installation. Even though the windows are perfectly clean when the double glazing is installed, water vapor will penetrate the wooden framing—we are assuming you mean wooden-framed windows—and condense on the surfaces of the panes of glass. Very fine dirt will collect with the vapor, and after a year or so

the windows will be dirty. The only way to clean the panes is to remove the putty and glazier's points and take out the extra pane of glass. We suggest you investigate making storm windows with the lightweight aluminum framing available at most hardware stores. These lightweight storm sash can be held in place with small clips to permit easy removal for cleaning. Although you did not say so, we rather assume that the idea of needing storm sash the year around was because the house is air conditioned. As more and more air conditioning is installed in homes the problem of double glazing will increase. We favor the lightweight sash with aluminum frames.

Research Department Editor

The concrete terrace in my back yard, although originally of colored concrete now has faded and I would like to somehow renew the color. Is there a paint of some kind that I can use?—Mrs. L. N., Toledo, Ohio.

Mrs. L. N.:

There are a number of good concrete paints on the market, and quite likely your local paint dealer can recommend one. Aridtone Masonry Paint, made by Anti-Hydro Waterproofing Co., Newark 8, N.J. is one type. Another method of renewing faded color is concrete stain. Rohloff and Co., 918 North Western Ave., Hollywood 28, Calif., sell Kemiko Permanent Concrete stains in a number of colors.

Dear Shop Talk Editor:

We have been in our new home just two years, but notice that the hot-air registers now have about $\frac{3}{4}$ in. space between their lower edges and the floor. If the whole house is settling, which we expected, why doesn't the wall with the register settle the same amount?—Mr. L. Mc., Dayton, Ohio.

Dear Mr. L. Mc.:

Yes, new houses do settle, but the space between the floor and the registers is not caused by settling. Instead, the problem is drying wood. Whether your home has plaster and lathe or plasterboard, there is an enormous amount of moisture in the structure. This is true also of a brick home. After you have lived in it a couple of years

and the furnace and sun have dried the house quite completely, moisture that was in the wood will have dried out and the wood will shrink. Loosen the screws and move the registers down. Quite likely space also will show beneath the quarter-round on the base molding, or mop board; pry up the quarter-round and re nail it. Do not try to pull the finishing nails out of the quarter-round. Instead, pry out the wood so the nails are pulled through it. The nails can be removed with a hammer or pincers.

Research Department Editor

About two hours after our concrete driveway was poured a rain shower came up and the concrete now has numerous tiny pits in it. Is there any way of resurfacing it, or would it be necessary to break it up and pour it again?

Mr. L. G., Springfield, Mo.

Dear Mr. L. G.:

There are a number of products on the market that can be used to resurface the concrete in the driveway. Specifically, latex concrete does an excellent job, and can be trowelled on very thinly. Frankly, unless the drive looks very bad, or does not match the appearance of adjacent concrete surfaces, we suggest you leave it rough. Smooth concrete can be slick when wet with rain or snow, and the rain-pitted surface of your drive has a natural skid resistance.

Research Editor

As there are so many types of stains and finishes on the market, isn't it sometimes less expensive to use soft pine than a hardwood? The pine can be worked easily, then finished to represent any kind of wood desired.—Mr. W. R., Oakland, Calif.

Dear Mr. W. R.:

To begin with, soft white pine is not strong enough for many types of furniture construction. For example, a turned leg of white pine would have very little strength. Secondly, clear white pine, free of knots and imperfections, which is what you would need for furniture construction, often is more expensive than hardwood. The latter can have a few imperfections without seriously affecting its strength or appearance. On flat surfaces, cost can be kept low and strength high, by using hardwood-faced plywood when a hardwood is desired.

Dear Sir:

I have a one-story brick ranch home that has a 1 x 12 wooden trim board projecting from the roof down over the top edge of the wall. I have painted it with quality paint three times in the last four years because it blisters and peels. I have been told that moisture causes this, but no painting has been done until the end of summer when the wood certainly should be dry.

Do you know what is causing this paint problem? Should I use an alu-

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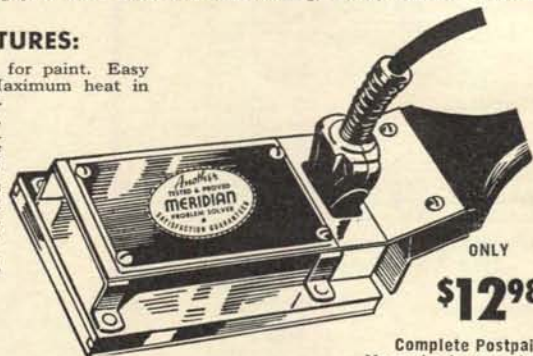
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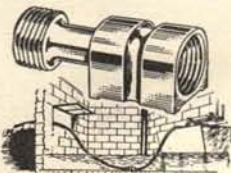
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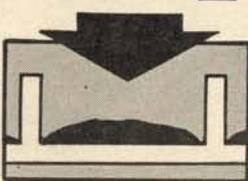


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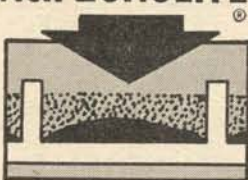
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minum paint first, then regular house paint? Would most appreciate your aid.—Mr. J. C., Chicago.

Mr. J. C.:

Your problem is a fairly common one, although not often recognized as such. Moisture is the reason for the paint peeling, but it comes from inside the house, rather than outside. During the winter when humidity outside gets quite low, there is a positive vapor pressure built up inside the home from water vapor escaping from the laundry, cooking in the kitchen and from showers and baths. This vapor is forced out of the house and through the wooden trim boards. If you will notice, sometimes in attics the underside of the roof will be coated with frost, which is caused by the vapor from the home condensing and freezing against the cold underside of the roof. This occurs, of course, when the ceiling is insulated and not the roof. The first step in correcting the problem is to check the insulation in the ceiling—that is, between the joists of the attic floor. If it is poured, loose insulation only about 2 in. thick, more should be poured to bring it up to a minimum of 4 in. For an air-conditioned house it should be 6 in. Also, there should be a vapor barrier, usually aluminum foil or sheet plastic, that is placed directly against the upper side of the ceiling insulation, then insulation is poured over this. If there is no vapor barrier, the insulation should be taken out and one installed, before repouring insulation.

Next, and this is the most common problem—more vents should be installed in the roof. A rough rule of thumb is to have 10 sq. ft. of vent for each 100 sq. ft. of attic floor area. These vents are to allow the water vapor to escape. In some cases, where there is an overhang on the roof, vents can be installed in this overhang, or soffit, eliminating the need for so many vents in the roof itself. With adequate insulation, vapor barrier and venting, the paint should stay on the wood for many years.

IN THE NEXT ISSUE . .

FOR THE SHOP:

An accessory for your table saw for cutting accurate rabbets, tenons and half-laps on the ends of stock.

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CORRECTION

ON PAGE 39 in the July-August issue of **WORKBENCH** the story on grounding power tools is not complete.

In cases where wire with a non-metallic covering is used, there would be no connection between ground and the receptacle box and its cover. Some types of this wire do have a ground wire woven around the outside of the two inner strands, and this can be connected to a receptacle box on one end and to the fuse box on the other. Should you do any wiring with cable that has a nonmetallic covering, look for this ground wire and use it. Be sure, of course, that the fuse box also is correctly grounded before starting the wiring.

To check a receptacle box to see if it is grounded through the circuit, use a test lamp—this can be an ordinary lamp socket fitted with two "pigtales" and a 40-watt bulb—and touch one prod to the cover of the receptacle. Fit the other prod into each of the receptacle slots. If the test lamp lights with a connection to one of the slots, the cover is grounded, as you are feeding electricity from the "hot" side of the circuit through ground. If the lamp does not light, there is no proper ground in this circuit.

In such cases fasten a ground wire to the receptacle box—pull the fuse first, and keep the ground wire clear of wires in the box—and run it to a water pipe, never a gas pipe, or back to the fuse box when that is possible. To check a fuse box for ground, touch one prod of a test light to a hot wire—this should be the black in a two-wire circuit—the other to the box itself. The test lamp should light. If there is no ground, trace the circuits, as the ground wire sometimes is removed accidentally when changes are made in plumbing or other remodeling work is done in a home. Usually the ground is a solid brass or copper bar in the box, and a single wire leads from it to a ground connection.



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WIN CONTEST Money. General Contest Bulletin gives hundreds of tips. Lists current contests, rules. Sample 25c. General Contests, 1609 East 5th, Dept. 343, Duluth 12, Minn.

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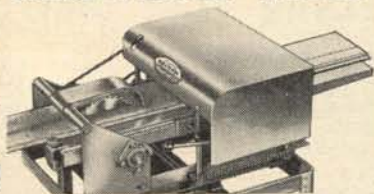
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Number the outside squares of the pattern both horizontally and vertically. Now, using a piece of paper (preferably tracing paper) sufficiently large for the full-sized pattern, measure off the exact area you wish the pattern to occupy. Divide this area into the same number of squares as appears in the smaller pattern. Number the outside squares on the paper in the same manner as you have numbered the original pattern.

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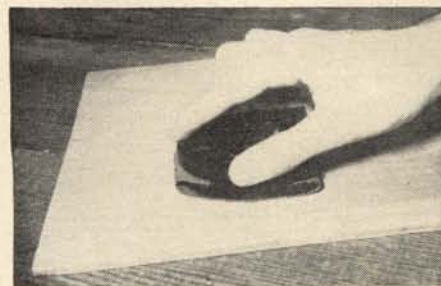
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This Might Help

Heel Makes Handy Sander

A rubber heel from a discarded pair of men's shoes can be easily made into a handy sanding block. Clamp the heel in a vise and hack saw a 1" deep kerf in the front and back edges. Wrap a strip of sandpaper around the bottom and tuck the ends into the slits. The sandpaper will be held firmly yet permit easy removal when a new strip of abrasive is needed.

John A. Comstock, Wellsboro, Pa.

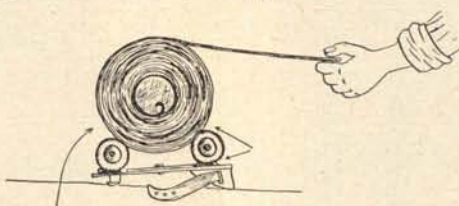


Makeshift Roller

When working with such bulky materials as roofing paper, siding paper, linoleum, etc., you are like-

ly to find that they are awkward to unroll for quick and even cutting. A makeshift roller for making them unroll easily can be made by using a pair of children's roller skates. The skates, extended to accommodate the particular roll, and overturned on the floor, are an immeasurable aid in this kind of work. No modifications in the skates are required.

Thomas P. Ramirez, Fond du Lac, Wis.

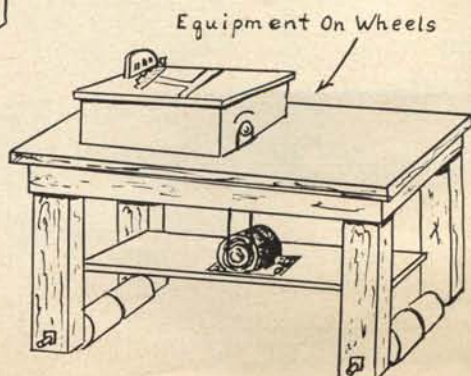
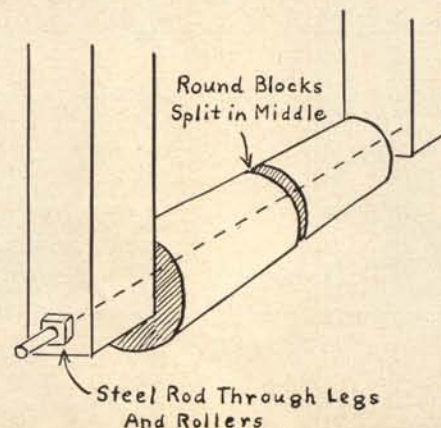


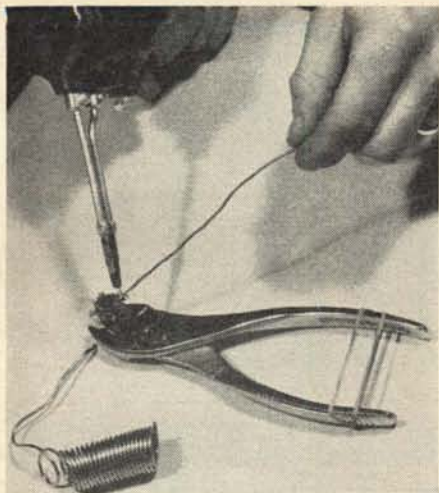
Improved Wheels for Shop Equipment

For that heavy workbench or saw table that has to be moved around in the workshop or from construction job to construction job, try these improvised wheels. By cutting a perfectly round post or thick table leg into short lengths, drilling a straight hole through the center of the pieces and mounting them on a heavy steel rod, you can make sturdy wheels for your bench or table. The advantages of this type wheel are most evident to the construction worker who must roll his equipment over the ground.

Where conventional wheels will bog in the mud, the wheels described here spread the weight over a greater area and make rolling easier. Where heavier pieces of equipment have to be moved, these improvised wheels will outwear ordinary wheels that twist, bend or crack under the weight, and from being moved over rough surfaces. They can be more easily blocked in place than conventional wheels, and shims can be driven under them to level the equipment.

Thomas P. Ramirez, Fond du Lac, Wis.

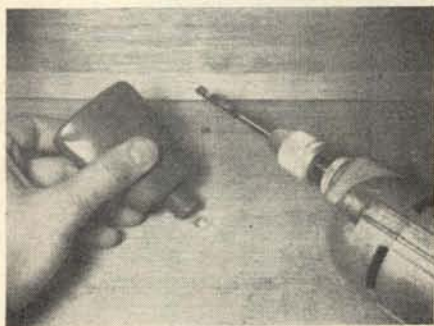




Pliers Hold Piece for Soldering

With the aid of a pair of round nose pliers and a rubber band, soldering of small objects together may be done with much ease. As shown in the picture, a strong rubber band is wrapped around the handles of a pair of round nose pliers; this places tension on the nose of the pliers, and thus holds the object that you are soldering, securely, leaving both hands free to work with.

Karl J. Brouneus, Corning, N. Y.



Bottle Blows Out Chips

You won't have to worry about getting an eyeful of wood shavings when blowing chips from a freshly drilled hole if you use an empty squeeze deodorant bottle for the job. One quick squeeze gives a blast of air that has as much force as blowing with the mouth. It saves not only your eyes, your breath, too.

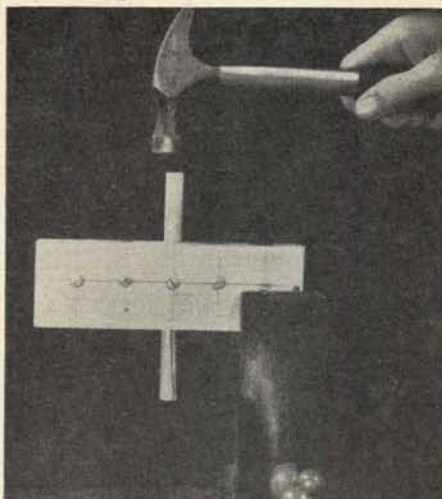
John A. Comstock, Wellsboro, Pa.

Matching Upholstery Tacks

When doing upholstery at home you can add to its attractiveness if you paint the heads of the upholstery tacks with colored fingernail polish to match, blend, or contrast with the upholstery fabric.

Blanche Campbell, Rivera, Calif.

Jig Grooves Dowels



Dowels used in joints must be grooved to allow excess glue to escape from the hole. A 2x4 block, drilled to accept various size dowels will do this effectively. Steel, self-tapping, sheet metal screws are driven through the sides of the block so they project slightly into the hole. The point of the screw will groove the dowel as it is driven through.

R. J. De Cristoforo, Los Altos Hills, Calif.

Tape Fastens Shade-Cloth to Rollers

In the process of changing some shade material for washing, the customary tacking of the new piece was eliminated by cutting a proper length of 1 inch masking tape, pressing half of the tape onto the cloth and the remaining half onto the roller. Not only did this prove more practical, but future removal won't produce any tears in the cloth.

Edward C. Jochens, Chicago

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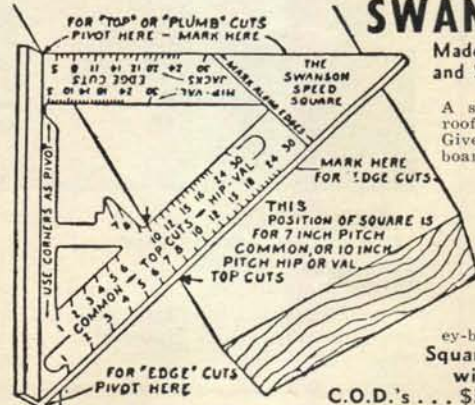


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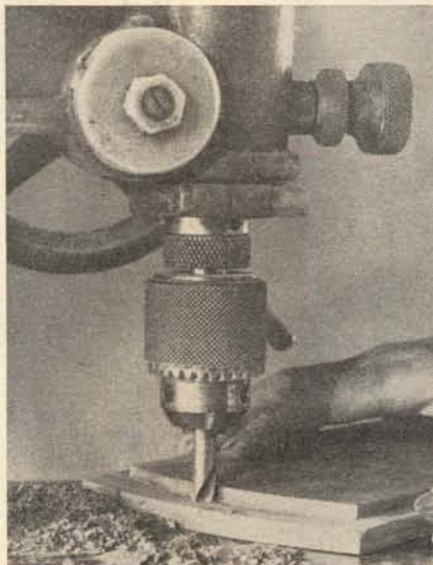
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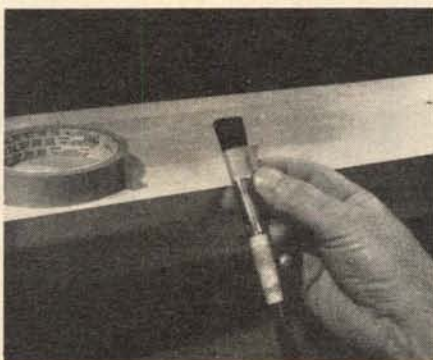


Router Bit from Broken Steel Drill

A broken $\frac{3}{8}$ or $\frac{1}{2}$ -in. drill bit makes a good router bit if the end is ground off square. It can be used for making curved rabbets, as shown, or for smoothing the bottoms of dado cuts. Run at high speed in a drill press, the bit planes the surface as smooth as though a plane had been used. It also can be used for smoothing the bottoms of hand-carved trays, making short work of this job. With a little practice, the improvised router can be used to make "hand-carved" designs on wooden surfaces, such as jewel-box lids.

D. C. Marshall, Manhattan, Kan.

Masking Tape Covers Plywood Edges



Sufficiently permanent for many purposes, masking tape will finish the edges of thick plywood used for tables, counter tops and similar projects. It gives a slightly grained surface that is easily painted or enameled. When the bristles of a trim brush, at right, are too wide for the work, confine them with a masking tape sleeve. Remove the tape before washing the brush.

Ken Murry, Colon, Mich.

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4"	21 3/4" — 24"	1.64	1.75	1.84
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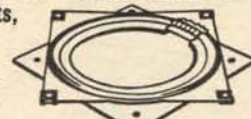
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Order by mail. Prompt shipment. Satisfaction or money back. Write for our free catalog of fine tools.
DRUMCLIFF CO., Dept. 411, Towson 4, Md.

"Why Does Dadd Sleep So Much

Sometimes I couldn't blame my little boy for wondering. It seemed as though the only thing my husband enjoyed was SLEEP!

Night after night my husband came home from work completely worn out — nervous and irritable. He often skipped supper and fell right into bed. What kind of companionship was this for his children, his friends, his wife?

Frankly, I was worried. My husband used to be such an active, energetic man. But for some reason he now seemed too tired to do anything. Even on weekends, when other men went places and had fun with their families—he complained of being just too tired! I wondered what I could do to help him.

One day I saw a Vitasafe ad in a magazine. It said that some men, just like my husband, could

easily lose their natural pep and run-down, act nervous because of a prolonged deficiency of vitamins and minerals in their diet that thousands of otherwise normal people had increased their pep by the famous Vitasafe Plan. May I help my husband too.

I sent for the 30-day trial High-Potency Capsules that when they arrived, my husband started day. Before long he was acting again — peppy, energetic, and

If you'd like to help your mine, mail the certificate below for a supply of proven Vitasafe High-Potency Capsules without risking a penny!

*"Thirty days ago I
back the hands of*

If anybody told me that a little capsule could make me feel years younger in just 30 days . . . full of pep, energy and happy well-being, I would have thought he was joking. Honestly, I felt so tired and run-down that I just couldn't keep up with my work. Everything seemed an effort. And I was so nervous and irritable, my friends and family said I acted like an old lady.

Then one day I came across a Vitasafe ad. It told how otherwise normally healthy men and women could lose their pep and energy because of a lack of vitamins and minerals, and how the rush of modern day living . . . quick lunches and hurried, inadequate meals could bring about this condition. It told how thousands of folks who have lost their vitality because of this lack of balance in their diet, now enjoy full,



A dramatization posed by professional model.

25¢ just to help cover shipping expenses of this

FREE 30 days supply High-Potency Capsules

LIPOTROPIC FACTORS, VITAMINS and MINERALS

Safe, Nutritional Formula Containing 27 Proven Ingredients: Glutamic Acid, Choline, Inositol, Methionine, Citrus Bioflavonoid, 11 Vitamins (Including Blood-Building B12 and Folic Acid) Plus 11 Minerals

To prove to you the remarkable advantages of the Vitasafe Plan . . . we will send you, without charge, a 30-day free supply of high-potency VITASAFE C.F. CAPSULES so you can discover for yourself how much stronger, happier and peppier you may feel after a few days' trial! Just one of these capsules each day supplies your body with over *twice* the minimum adult daily requirements of Vitamins A, C and D . . . *five times* the minimum adult daily requirement of Vitamin B-1 and the *full concentration* recommended by the Food and Nutrition Board of the National Research Council for the other four important vitamins! Each capsule also contains the amazing Vitamin B-12 — one of the most remarkable nutrients known to science — a vitamin that actually helps strengthen your blood and nourish your body organs. Vitasafe Capsules also contain Glutamic Acid, an important protein constituent derived from natural wheat gluten. And now, to top off this exclusive

formula each capsule also brings you an important dosage of Citrus Bioflavonoid. This formula is so complete it is available nowhere else at this price!

POTENCY AND PURITY GUARANTEED

There is no mystery to vitamin potency. As you probably know, the U. S. Government strictly controls each vitamin manufacturer and requires the exact quantity of each vitamin and mineral to be clearly stated on the label. This means that the purity of each ingredient, and the sanitary conditions of manufacture are carefully controlled for your protection! When you use VITASAFE C.F. CAPSULES you can be sure you're getting exactly what the label states . . . pure ingredients whose beneficial effects have been proven time and time again.

**WHY WE WANT YOU TO
TRY A 30-DAY SUPPLY — FREE!**

We offer you this 30-day free trial of valuable VITASAFE C.F. CAPSULES for

just one reason. So many people have already tried them with such results . . . so many are telling us how much better they feel after only a short trial. You are absolutely convinced you will experience the same well-being after a 30-day trial. We're so convinced that we've backed up our conviction with money. You don't spend money until you've received your supply, simply take or

**HOW AMAZING!
VITAMIN**

With your free 30-day High-Potency Capsules you receive complete details of an amazing new way to get your vitamins and minerals. Participating in the Vitasafe Plan are never under any obligation to have received your supply, simply take or

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or when in New York
IN

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**30 days
supply of
HIGH-
POTENCY
CAPSULES**



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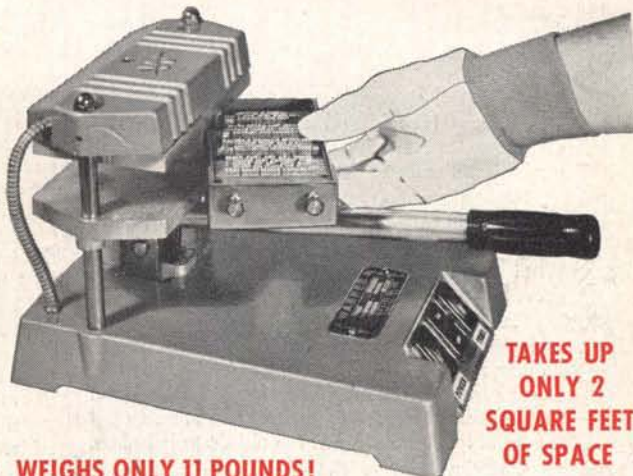
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OF VITASAFE
HIGH-POTENCY
CAPSULES**

**JUST FILL IN YOUR
NAME AND ADDRESS
ON REVERSE SIDE
AND MAIL TODAY!**

New Rubber Stamp Business Pays Beginners ^{UP} ~~TO~~ \$9.20 an hr.

START AT HOME IN SPARE TIME WITH THIS LITTLE TABLE TOP MACHINE

The multi-million dollar Rubber Stamp Business—once controlled by a few big companies—is now being taken over by small home operators—one in each community throughout the U. S. Men and women who have this inexpensive machine can turn out huge quantities of Rubber Stamps with special wording that buyers once were forced to order from big cities. Material costing only 27¢ makes a stamp that sells for \$1.80. The machine that does the work is simple and easy to operate and it turns out as many as six Rubber Stamps at a time each with different wording such as names, addresses, notices, stock numbers, prices and other "copy" needed by factories, offices and individuals. Working full capacity, it can earn as much as \$9.20 an hour for the operator! Now you can get into the big-pay business yourself with your own home as headquarters. You don't need any experience. We supply everything, including complete instructions and eight ways to get business coming in fast. Start making up to \$9.20 an hour from the very beginning. Cash in on the profitable Rubber Stamp business in your community right away.



WEIGHS ONLY 11 POUNDS!

• Read the complete and fascinating Rubber Stamp story in a big 110-page Book recently published by the Warner Electric Company. The book is profusely illustrated with more than 100 pictures and photographs. And you can read it for a full two weeks without risking a penny of your own money!

NEW WARNER SUCCESS PLAN

Tells How to Build—Step by Step—to Big Profits and Personal Independence. Read This Plan for Two Weeks Entirely At My Risk!

In this amazing Plan you will find exact and detailed instructions for starting a Home Business in spare time—without giving up your present job and without risking the loss of a single pay check. The Warner Plan shows you—with pictures, photographs and drawings—just how to make Rubber Stamps just as good as those turned out by the big companies. It shows how to get orders *without canvassing or house-to-house selling*. It shows you how to expand, how to get others to work for you and how to be SURE of at least twice the money you make on your present job for a life of personal independence.

But don't make any decision now. Read the Plan first—entirely at my risk. Then—after you have made a careful investigation—after you have talked things over with your family—only then do you decide what you want to do.

The thing to do now is to get full details which I'll send you FREE no salesman will call to urge you to buy anything. Mail coupon now—or just send a postcard—and I'll see that complete information goes out to you by return mail—postpaid.



RUBBER STAMP DIVISION, Dept. R-6-K
1512 Jarvis Avenue, Chicago 26, Illinois

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YOUR NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

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Permit No. 34316
Chicago, Illinois

BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

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RUBBER STAMP DIVISION

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Dept. R-6-K

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MORE
THAN
100
PICTURES**

Cut Coupon
on dotted
line. Fill in
name and
address.

Drop in Mail
Box. NO STAMP
NEEDED!

Here's what the new WARNER PLAN Tells You about Making Money with RUBBER STAMPS

1. **HOW TO** have fun *now* and at the same time provide for a secure and prosperous *future*.
2. **HOW TO** check the advantages of operating a Rubber Stamp Business in your own community.
3. **HOW TO** acquire a general knowledge of the business based on a brief history of the Rubber Stamp.
4. **HOW TO** visualize the scope of the Rubber Stamp market.
5. **HOW TO** make a Rubber Stamp (general outline).
6. **HOW TO** assess the value of Warner Equipment.
7. **HOW TO** get acquainted with the "Tools of your Trade."
8. **HOW TO** make a Rubber Stamp (Specific procedure).
9. **HOW TO** mount a vulcanized Rubber Stamp.
10. **HOW TO** make "Special" Rubber Stamps.
11. **HOW TO** cut plastic Matrix Board for the chase.
12. **HOW TO** get the right price for the Rubber stamps you make.
13. **HOW TO** price your complete Rubber Stamp Line.
14. **HOW TO** figure costs so you will be sure of a substantial profit on all the work you turn out.
15. **HOW TO** set up your workshop.
16. **HOW TO** get the most out of Warner's "Eight Tested Sources for Getting Business."
17. **HOW TO** operate at peak efficiency when YOU ARE YOUR OWN BOSS.
18. **HOW TO** get started on a cash outlay so small that you can get back your entire investment inside of two weeks.